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BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JULY, 1927

Scouting for the European corn borer has been in progress for only three days, as the seasonal development is late. Scouting up to this date has been limited to confirmation of the presence of the borers in the counties on the border of the Quarantine area and the crews are reporting them in these counties in numbers at least as great as those found in 1926.

Throughout the eastern part of the United States one of the most conspicuous features of the month was an unusual abundance of aphids on a great variety of crops and ornamental plants. Shade trees in many places were almost black with sooty mold.

The alfalfa weevil has advanced from about 40 miles west of the Nebraska-Wyoming line to about 8 miles west of that line.

The Hessian fly seems to be about normally prevalent throughout the wheat belt with the exception of the Kansas area, where it is estimated that 20,000,000 bushels of wheat were destroyed by this insect.

Allowing for the alarm caused by the European corn borer, the common stalk borer appears to be unusually prevalent throughout the Middle Atlantic, East-Central, and West-Central States.

The black cutworm continued throughout the month to be a serious pest in the recently flooded areas of Mississippi and several points in Indiana and Nebraska.

Scouting for the Japanese beetle outside the area now under Quarantine has been in operation about one week. It is too early to tell whether there will be extensive spread of the general infestation but a strong movement to the south is indicated.

In the Ohio River Valley the codling moth was somewhat later than usual in emerging. This, coupled with the destruction of the fruit by frost, has very materially reduced the population of this insect.

An interesting note has been received from Maine reporting destruction of fruit buds by elaterid adults. This type of attack has been recorded for several years from the Pacific Northwest.

In Georgia the oriental fruit moth has spread from the few orchards where it was recorded in 1926 to the entire Fort Valley district.

The plum curculio has been unusually prevalent and destructive over the entire Atlantic seaboard.

Owing to unusual weather conditions the cherry maggot was so greatly delayed as to render it of no importance to the cherry crop in Michigan.

been...
Mealybug infestations have materially heavier than during last year in the southern California citrus belt. During the month of May of this year, the Los Angeles County insectary liberated 1,612,000 *Cryptolaemus* beetles, and during April another 500,000 were liberated to control this pest.

One of the interesting features of the season has been the finding of the Mexican fruit worm in Texas early in June. Specimens were collected at Mission, Hidalgo County and two points in Cameron County.

The Mexican bean beetle has very materially increased its area of infestation. It has advanced eastward to Washington and Frederick Counties in Maryland; in Virginia, to Norfolk and the Government Experimental Farm at Arlington near Washington, D. C.; in North Carolina, it has spread northeastward to Wake and Robeson Counties; northward in Indiana to Indianapolis and Richmond and westward to Owen and Dubois Counties; in Pennsylvania, to Erie County; and in Michigan, to Monroe County.

The seed corn maggot has been quite prevalent in parts of New York, Michigan, and Iowa.

Though unusually late in appearing in the pepper fields of California the pepper weevil is now well spread over the pepper-growing section and the present indications are that the loss will be heavy this year.

The boll weevil survived the winter in better condition than last year in North Carolina, South Carolina, and Mississippi, while the records indicate that survival was lower than last year in parts of Georgia, Alabama, and Louisiana. Later reports indicate that this insect is generally more destructive than last year in North Carolina, central Georgia, Alabama, and Mississippi. Little boll-weevil damage is reported from South Carolina, Louisiana, and Texas.

The cotton flea hopper situation is decidedly better than last year, practically no damage being reported from any part of the cotton belt.

The cotton leaf worm has stripped the cotton as far northward as San Marcos and eastward to Houston in Texas. In general this insect has not been reported over the eastern part of the cotton belt as yet. A single specimen of the leaf worm has been reported from Tennessee.

The tussock moth is generally more prevalent than usual over the Middle Atlantic and East Central States extending westward to eastern Iowa and Nebraska.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA, FOR JULY, 1927

Grasshoppers of several species are very heavily infesting open grass ranges in south-central British Columbia from Ashcroft to Quesnel. Cattle country comprising some 2,000 square miles is badly infested and there is danger of the range grasses being seriously reduced.

The clover root borer is gradually exterminating red and alsike clovers throughout the north end of the Okanagan Valley, and adjoining areas, in British Columbia.

A light infestation of the potato stem borer is reported throughout the southeastern counties of New Brunswick, affecting a variety of field and garden plants.

Reports of severe wireworm injury have been received from points in southern Quebec, southern Manitoba, western Saskatchewan, and Vancouver Island.

Observations at points in southern Quebec and along the St. Lawrence River show the onion-maggot infestation to be, in general, more severe than last year, from 40 to 80 per cent of plants being infested.

The spruce budworm is heavily infesting balsam, fir, and spruce over an area of several hundred square miles north of Thor Lake, Ont. This outbreak has been in progress since 1922, with the result that the fir is largely dying or dead and the spruce growth seriously retarded.

Eighty-eight per cent of cocoons of the larch sawfly examined in the Spruce Woods Reserve, Manitoba, were found to be parasitised with the introduced parasite, Mesolius tenthredinus Morl. Adults of this parasite are being liberated at points in Eastern Canada.

On the mainland east of Moose Island, in the vicinity of Lake Winnipeg, Manitoba, the spruce budworm has entirely killed out mature balsam and has weakened white spruce. A large percentage of the latter is being killed by the bark beetle Ips perturbatus Eich.

The white pine weevil is infesting the terminal shoots of young jack pine trees on the Sandilands Forest Reserve, Manitoba.

There is a general and heavy infestation of the box elder plant louse on Manitoba maples in Saskatchewan.

The satin moth was responsible for complete defoliation of infested poplar trees in the Victoria district, B. C., this summer.

With the completion of bark-beetle control work in the Aspen Grove district, the last of the bark-beetle outbreaks in yellow pine in British Columbia has been brought under control, with a consequent saving of millions of dollars worth of valuable timber.

In the Niagara peninsula, Ontario, the pear psylla heavily infested unsprayed orchards and orchards that were sprayed too late.

The saskatoon sawfly, Hoplocampa halcyon Nort., is abundant and widespread in southern Manitoba, where it destroyed 75 per cent of saskatoon berries.

Aphids of many species have been reported unusually abundant in western Nova Scotia, the Niagara peninsula, Ontario, and central Saskatchewan. Serious infestations of the green apple aphid on young apple trees are reported in the Okanagan Valley, British Columbia.

Rose leafhoppers were very abundant on roses in June and apples in July, in the Vernon district, British Columbia.

Severe outbreaks of the apple leaf sewer, Albononyma vicarialis Zell., have occurred in apple orchards of the Annapolis valley, Nova Scotia, where the insect is more numerous than ever previously recorded.

GRASSHOPPERS (Acrididae)

- Ohio T. H. Parks (July 25): We anticipate no damage by grasshoppers this year.
- South
Dakota H. C. Severin (July 18): There are no grasshoppers to speak of this year
- Nebraska M. H. Swenk (June 25 - July 25): A few reports only of injury by grasshoppers are being received. There has been a moderate hatch of these insects in the North Platte Valley, with some threat of serious injury, and during the third week in July a few reports of an abundance of grasshoppers in alfalfa fields were received from scattered localities along the eastern edge of the State.

WHITE GRUBS (Phyllophaga sp.)

- Iowa C. J. Drake (July 12): White-grub injury, brood "A," is beginning to show up in the entire eastern half of the State with a few localities in the western half.
- Nebraska M. H. Swenk (June 25 - July 25): Since the middle of June, scattering complaints of damage by white grubs to strawberry beds and rose and flower gardens have been received.

APHIDAE

- Ohio T. H. Parks (July 25): Aphids have had their inning this year. Almost every crop suffered more than usual. Spiraea led in the shrub line. Potatoes and tomatoes were damaged in localities by Illinoia solanifolii. Green apple aphid appeared in many orchards and damaged young trees. A field of sugar beets in Lucas County was found to be almost destroyed by aphids July 22. We have had the most severe visitation in years. Aphids on maple trees are now about gone, being controlled by parasites and predators.
- Illinois C. C. Compton (July 9): Many species of plant lice are unusually abundant at this time. Cabbage is suffering most.
- Alabama J. M. Robinson (June 30): Plant lice are showing up in spots in central and southern Alabama. However, the parasites and predacious forms are apparently keeping them considerably reduced

A WIREWORM (Melanotus spp.)

- Minnesota A. A. Mail (July 3): On a recent trip throughout the southwestern sections of the State, I found two wireworms which appeared to be doing the heaviest damage and these I am going to concentrate on as the major wireworm pest in Minne-

sota. The most abundant is the dark brown, very cylindrical larva which I think is Melanotus. In an infested field I obtained a few beetles which I take to be the adults of the larvae. (Specimens determined by J. A. Hyslop as Melanotus sp.)

CEREAL AND FORAGE & CROP INSECTS

MISCELLANEOUS FEEDERS

GREEN BUG (Toxoptera graminum Rond.)

Minnesota

A. G. Ruggles (July 15): Toxoptera graminum was found thinly distributed over a wide area in southern Minnesota late in June, the first ones found being isolated migrants. In a few places, on very late grain, there has been considerable increase and slight injury seems likely. In most fields the grain is well headed and little increase of Toxoptera has occurred.

PEA APHID (Illinoia pisi Kalt.)

Wisconsin

J. E. Dudley (June 25): The general distribution and establishment of aphids in pea fields, also alfalfa and clover, would seem to justify the prediction that they will be more than usually abundant in July, especially if the weather turns hot. It is possible, however, that the aphid's enemies, particularly syrphids, may be able to keep the infestation below normal.

ARMYWORM (Cirphis unipuncta Haw.)

Missouri

L. Haseman (June 28): During the month two complaints were received with samples of specimens of the regular armyworm though no epidemic has developed

Nebraska

M. H. Swenk (June 25 - July 25): Reports of commercial damage by the armyworm were not so numerous as the cool weather seemed to indicate they would be, but the larvae were quite commonly and generally distributed in grass and grain fields over the southeastern part of the State.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Ohio

E. W. Mendenhall (July 6): Clark County has about 13 per cent of Hessian fly infestation according to the recent wheat-field survey. (July 8): Champain has about 8 per cent Hessian fly infestation according to the recent wheat field survey. A reduction over last year. So much for better cooperation in the proper time of seeding. (July 14): Logan County has 15½ per cent Hessian fly infestation. By inspection they are found now in the "flaxseed" state or resting stage. Wheat was sown rather late but there was a lot of volunteer wheat which may be the cause.

T. H. Parks (July 25): The annual wheat survey has been completed in Ohio. Thirty-four counties were inspected and the percentage of Hessian fly infestation determined in each. The situation is satisfactory in the southern one-third of the State or south of a line drawn through Zanesville, Columbus, and Springfield. It increases in the north central belt, and the northern half of the State has had a rapid increase in infestation. Four counties in northwestern and one county in northeastern Ohio now have between 40 and 50 per cent infestation of the straws. The average infestation for the State is 20.5 per cent compared with 9 per cent in 1926. The present crop did not suffer much owing to good growing weather and the most of the infested straws remained upright. The rapid increase in the infestation was due to the presence of volunteer wheat which received the eggs of the fall brood last year and which was kept growing in the old stubble fields by abundant fall rains. We shall make an effort to hold off seeding this fall and with normal fall weather, expect to win out.

Michigan

R. H. Pettit (July 18): The Hessian fly appears to be coming back with us here and there. We have no facilities for making a survey over the State, but we find it in moderate numbers wherever we look.

Nebraska

M. H. Swenk (June 25 - July 25): The unusually large 1926-27 winter wheat crop of Nebraska came through harvest without any commercial damage whatever by the Hessian fly.

Kansas

J. W. McColloch (July 21): There has been no material change in the Hessian-fly situation since my last report. I might say that preliminary estimates indicate that this insect reduced the wheat crop about 20,000,000 bushels.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

Nebraska

M. H. Swenk (June 25 - July 25): During the last few days in June and the first two weeks of July, the wheat stem maggot was responsible for some serious damage to wheat and rye in the northeastern portion of the State, from Greeley County northeast to Cedar County and northwest to Boyd County. The injury was mostly confined to scattering heads through the fields, but one Cedar County farmer reported that the pest had destroyed about one-fourth of his crop of fall rye.

WHEAT STRAW WORM (Harmolita grandis Riley)

Missouri

L. Haseman (June 28): Farmers have been reporting small injury from the work of the straw worm. It is no more abundant than in most seasons but has attracted some attention.

ARMYWORM (Cirphis unipuncta Haw.)

Kansas

J. W. McCulloch (July 20): Last month I reported the wheat head armyworm as injurious in several localities. Field investigations since then have shown that most of the damage was due to the true armyworm which took on the habits of the wheat-head armyworm. In all cases a few wheat-head armyworms were present.

PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas

J. W. McCulloch (June 23): The beetles of this species are unusually abundant in the wheat fields at Meade.

SMUT BEETLE (Phalacrus politus Melsh.)

Nebraska

M. H. Swenk (June 25-July 25): During the last few days in June and the early part of July, there were a few reports of the presence of Phalacrus politus in abundance in fields of smutted wheat.

A THRIPS (Prosopothrips cognatus ?)

Kansas

J. W. McCulloch (July 9): A farmer sent in several thousand of these thrips from a wheat field near Paradise. He said the wheat in this field was poorer than in adjacent fields. From the number of specimens sent in this thrips was undoubtedly very abundant.

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio

T. H. Parks (July 25): While a few newly hatched chinch bugs were found in the wheat during the annual wheat insect survey, no report of damage has come from any section of Ohio. The numerous rains of the fall and spring have probably been responsible for the absence of this pest.

North
Carolina

Z. P. Metcalf (June 1): This pest is more abundant this month than last; also more abundant this year than last.

W. A. Thomas (June 16): On June 11, it was observed that this insect was doing serious damage to growing corn on a near-by farm. The attack had just begun on the edge of a 5-acre field adjacent to a field of spring rye, which had recently been turned under. Only three rows adjacent to the old rye field showed serious injury. On these, several of the small plants, from 10 to 15 inches high, had been killed. The average size of the plants, 3 to 4 feet, seemed less seriously affected. 100 per cent of the plants on these rows were infested, the large masses of insects being very conspicuous on the stalks and about the bases of the plants. Further spread of this infestation was definitely checked by treating infested plants with dust treatment.

C. H. Brannon (July 21): Has been especially destructive on corn and small grains in Pitt and Robeson counties this year. Much damage has been done to corn crop farther east and south.

South
Dakota
Nebraska

H. C. Severin (July 18): No chinch bugs to speak of this year.

M. H. Swenk (June 25 - July 25): Although the mortality of the chinch bug was apparently not excessive during the past winter, and the pest started the season with a menacing abundance in many parts of southeastern Nebraska, the protracted period of subnormally cool weather that occurred during May and June slowed up the development of the first brood, while in most localities timely cold rains proved fatal to a large percentage of the young of this brood. The net result has been far less serious injury by this insect than was threatened at the close of the winter. In only one area in the State did the infestation develop to the point of an outbreak. This area included the whole of Lancaster County, about the northwestern one-fourth of Gage County, the southern edge of Gage County, and the southern edge and northwestern corner of Cass County. In this comparatively limited area the bugs started moving on July 2 and the movement continued for the next 10 days. Oil-line barriers were constructed in many fields over this area during the period mentioned, as the bugs moved from the wheat into the near-by cornfields. Outside of this area the chinch bug apparently did no serious or commercial damage to corn during the migration period.

Kansas

J. W. Mc Colloch (July 20): Rains have checked the chinch bug and the injury this year is materially less than last year. Scattered reports indicate local damage in several parts of the State. The second brood is just beginning to appear.

EUROPEAN CORN BORER (Pyrausta nubilalis Hübn.)

Ohio

L. H. Worthley (June 23): Scouting for the European corn borer has been in progress only three days as the seasonal development is late. Eggs are now present in the fields in considerable numbers and some larvae are as far along as the fourth instar. The scouting up to this date has been limited to confirmation of the presence of the borers in the counties on the border of the quarantine area and the crews are reporting them in these border counties in numbers at least as great as those found in 1926.

CORN EAR WORM (Heliothis obsoleta Fab.)

Ohio

T. H. Parks (July 25): Growers of early sweet corn in the Sciota Valley report the heaviest damage in their experience from the corn ear worm. Our first mess of green corn was 90 per

cent infested. This is unusual for early corn in central Ohio. Perhaps the mild winter had something to do with this as they are not known to survive the average winters in Ohio.

Kansas

J. W. McCulloch (July 20): The corn ear worm is somewhat more abundant than usual. The insect is present throughout the State. There has been considerable injury to the tassels of corn at Larned.

SOUTHERN CORN STALK BORER (Diatraea zeacolella Dyar)

Maryland

W. R. Walton (July 29): On July 25th, Mr. James McMurtrey of the Bureau of Plant Industry submitted specimens of corn stalks heavily infested by this species collected on fair grounds at Upper Marlboro on popcorn. He stated that there had occurred total destruction of from 400 to 500 plants on experimental plots. On July 26th, Mr. James U. Dennis of Trappe, Talbot County, submitted specimens of field corn stating that serious injury to it had been done by the insect. Both larva and pupa stages of the insect were present.

North
Carolina

C. H. Brannon (July 20): Generally destructive to late-planted corn.

South
Carolina

J. O. Pepper (July 11): Cornstalks infested by this insect have been sent in from Florence County. In five stalks there were an average of three larvae per stalk.

STALK BORER (Papaipema nebris nitela Guen.)

Massachusetts

A. I. Bourne (July 25): From our indications to date, the stalk borer for some reason or another is not so abundant as is usually the case.

New York

E. P. Felt (July 25): This insect has been unusually abundant and destructive in widely separated sections of the State, working in young corn and various thick-stemmed plants. Possibly a portion of the reports are due to the present keen interest in the European corn borer and its work.

Maryland

P. D. Sanders (June-July): Corn has been injured seriously over the State by the common stalk borer. Farmers are generally alarmed over its presence, believing it to be the European corn borer. The cold rainy spring no doubt has made parasitism ineffective in holding the stalk borer in check, as normally it is of slight concern in this State. It also attacks dahlia and hollyhock.

Pennsylvania

M. F. Crowell (July 5): On June 28 the writer noticed the common stalk borer in about the second and third instars feeding in corn that was about a foot high at North East. A report came

to this office on July 1 that this insect is doing quite a bit of damage to flower beds in Erie.

Ohio

E. W. Mendenhall (July 8): The stalk borer is very bad in Champaign County in corn plants and some think they have the European corn borer; but when investigation is made we find it is the common stalk borer.

T. H. Parks (July 25): Damage from the stalk borer has been more abundant this season than usual. Specimens have been received almost every day with the fear expressed that they may be the European corn borer. Larvae are about full-grown at this writing.

Indiana

H. F. Dietz (June 28): The common stalk borer is being reported within the last few days, June 22 to June 24. Most of our records have come from Marion County where in a number of cases small garden lots have been seriously injured by unusual numbers of these worms. At Danville this insect was found tunneling wheat, and in Madison County over 50 per cent of a half-acre plot of sweet corn was destroyed.

In city flower gardens this borer has also been reported on such flowering plants as cosmos, dahlias, and zinnias and such truck crops as potatoes and tomatoes.

J. J. Davis (July 19): One of the outstanding pests of the month was the common stalk borer. Reports were first received June 22 and have continued up to the date of this record, being most numerous the last few days in June and first week or ten days in July. Greatest damage reported to corn, but also to sweet and popcorn. Next crop in importance was tomato. Other crops attacked included potato, wheat, oats, mint, hollyhock, dahlia, and rhubarb, most of the reports coming from the northern two-thirds of the State. The general prevalence of this borer throughout the State and the small size of the corn have resulted in conspicuous losses to corn growers and others.

H. F. Dietz (July 21): Reports of the stalk borer, continue to be received from various parts of the State. The hosts, of course, are quite variable and whenever the insect is found in corn the writers immediately think they have the European corn borer. Reports of this insect in dahlias, tomatoes, asters, and zinnias are common.

Michigan

R. H. Pettit (July 18): This is the worst year so far that we have ever had with the common stalk borer. It is sent in sometimes a dozen times a day with the request for information concerning it.

Iowa

C. J. Drake (July 12): The common stalk borer is unusually abundant in Iowa this year. Over 100 different kinds of plants have been found infested by the stalk borer at Ames. Specimens have been received from almost every county in the State, and in some counties a considerable quantity of corn has been badly injured or even entirely destroyed by the insect.

L. Haseman (June 28): Throughout the month the outstanding insect so far as inquiries are concerned has been our common native stalk borer. Farmers have suspected that it might be the European corn borer. It has been unusually abundant this month.

Nebraska

M. H. Swenk (June 25 - July 25): Complaints of injury by the stalk borer, that began to be received during the second week in June from southeastern Nebraska, as mentioned in my last report, increased to the status of an outbreak during the last week in June and the first three weeks in July. Complaints of injury were received from practically every county in Nebraska lying east of the 98th meridian, and in the Platte River Valley the area of injury extended west to the 100th meridian. Over one-half of the complaints referred to injury to corn, which in some instances assumed quite a serious aspect; otherwise, the complaints referred mainly to injury to potatoes, tomatoes, and thick-stemmed flowers, like hollyhock, etc.

Kansas

J. W. McColloch (July 20): The stalk borer has been a predominating insect in our correspondence this month, owing to the fact that every one is looking for the European corn borer. Many farmers are reporting heavy losses from this pest. In a few cases the damage has been severe enough to cause abandonment of the crop.

Iowa

C. J. Drake (July 29): A telegram July 29 reads "Big armyworm outbreak in Hardin and Franklin Counties."

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Iowa

C. J. Drake (July 12): The cutworm Prodenia ornithogalli Guen. has been found in considerable numbers in Story, Woodbury, and Webster Counties during the first part of July.

Mississippi

R. W. Harned (July 25): The yellow-striped armyworm ranks second in importance among the cutworms in the overflowed areas. Between May 16 and July 21, reports with specimens were received from Adams, Bolivar, Tallahatchie, Warren, Washington, and Yazoo Counties.

CUTWORMS (Noctuidae)

Iowa

C. J. Drake (July 12): Cutworms (various species) have been unusually abundant in the State this spring. A number of fields of corn were badly injured or even entirely destroyed.

BLACK CUTWORM (Agrotis ypsilon Rott.)

Indiana

J. J. Davis (July 19): Cutworms have been unusually abundant the past month. Most of them were apparently the greasy cutworm. The first of these late cutworm reports came from Kokomo June 27 where 20 acres of corn were said to have been destroyed. Late reports of damage to corn came from Peru, July 2; Winamac, July 3; Muncie, July 4; Newburgh, July 6; Martinsville, July 7; Rossville, July 9; and Terre Haute, July 14.

Nebraska

M. H. Swenk (June 25 - July 25): During the second and third weeks in July several reports were received of cornfields being injured by the greasy cutworm, boring into the bottom of the stalks of young corn and killing the plants. This injury assumed its most serious development in York County. One 40-acre field near Gresham had about one-third of the stand on several acres taken in this way, while another field of 35 or 40 acres near Lushton suffered a loss of about 10 per cent of the stand because of this injury.

Mississippi

R. W. Harned (July 25): Agrotis ypsilon Rott. continues to be the most important cutworm in the counties that were recently flooded. Between May 25 and July 19, reports of injury by this species accompanied by specimens were received from Bolivar, Yazoo, Quitman, Washington, Warren, Grenada, Tallahatchie, Adams, and Sunflower Counties.

BESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Louisiana

T. E. Holloway & W. E. Haley (June 29): One field of corn near Gulfport was reported by various inspectors as having a peculiar injury. No specimens could be found by anyone, but it appears that the damage was done by the lesser corn-stalk borer. The stalks were in many cases almost girdled at the surface of the ground, so that a strong wind caused them to fall over.

Mississippi

R. W. Harned (July 25): Although a month ago we were receiving complaints every day in regard to the lesser corn stalk borer, during the past three weeks only three lots of specimens have been received. These came from Newton County on July 15 with the report that they were seriously injuring corn, and from Lee County on July 23 where they were attacking corn, and from Jefferson County on July 21 where they were attacking peas.

LINED CORN BORER (Hadena fractilinea Grote)

New York

E. P. Felt (June 27): We have just learned of a heavy infestation in a cornfield in Broome county. (July 25): The lined corn borer has been injurious to corn on recently planted sod in Albany, Columbia, Rennsler, Broome, and Oneida Counties, and in some instances caused considerable damage.

SMARTWEED BORER (Pyrausta ainsliei Hein.)

Iowa

G. J. Drake (July 12): A large number of caterpillars of the smartweed borer were found in old cornstalks in Iowa this spring. The caterpillars have not been found tunneling the growing corn.

BEET ARMYWORM (Laphygma exigua Hübner.)

California

J. C. Elmore (June 30): Two cornfields near Talbert where ground was flooded in February are heavily infested by the larvae of the beet armyworm. Plants near the patches of pigweed are most heavily damaged. Peppers are also attacked so that treatment is necessary. This same locality was heavily infested by two species of cutworm in April and May. Species not determined.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Mississippi

R. W. Harned (July 25): The southern grassworm has appeared at a number of places in the State in injurious numbers. Specimens have been received from Adams, Warren, Holmes, Leflore, Tallahatchie, Pearl River, Hinds, Marshall, Lowndes, and Sunflower Counties. In some cases considerable damage has been caused to corn but a few reports of injury to cotton have also been received, especially where the worms started on grass that was afterwards removed. Parasites of this species are now very abundant at certain places.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Indiana

J. J. Davis (July 19): The southern corn root worm has been the outstanding pest of corn throughout the State. The first reports came from Brownstown July 2. Following this initial report, records accompanied by specimens were received from Osgood, Tipton, Shelbyville, Marion, Orleans, Rushville, Newport, Evansville, Martinsville, Vincennes, New Harmony, Jasonville, Fairbanks, Crown Point, Petersburg, New Castle, Portland, Washington, and Columbus. Reports are still coming in. The reports read "6 acres destroyed," "abundant and destructive throughout the country," "20 acres practically ruined," and "one-third to one-half of my 29-acre field of corn destroyed." At the present writing the worms are about full-grown.

H. F. Dietz (July 21): One report of the corn root worm was brought in from a farm between Indianapolis and Noblesville where 2 acres of bottomland corn showed considerable damage to the roots caused by the larvae of this insect.

Kansas

J. W. McColloch (July 15): Two reports of injury by the larvae of the southern corn root worm on corn were received since the 1st

Report. One was from Girard on June 22 and the other from Eureka on July 9.

Missouri

L. Haseman (June 28): A few complaints have been received during the last half of the month concerning the corn root worm. The species proved to be the southern one.

CORN ROOT WORM (Diabrotica longicornis Say)

Nebraska

M. H. Swenk (June 25 - July 25): From here and there in the State, beginning the third week in July, reports of falling corn following injury by the western corn root worm have been received.

SEED-CORN MAGGOT (Hylemyia cilicruca Rond.)

Ohio

E. W. Mendenhall (July 6): Very bad in seed corn in Clark County this year.

BAR-WINGED ONION FLY (Chaetopsis aenea Wied.)

Ohio

T. H. Parks (July 25): These maggots have been received from several counties in west-central Ohio with the statement that they were damaging corn.

GARDEN WEBWORM (Loxostege similalis Guen.)

Nebraska

M. H. Swenk (June 25 - July 25): A complaint of injury to corn by the garden webworm was received from Harlan County during the second week in July. The greasy cutworm was also doing injury as above described in this same field.

CURLEW BUG (Sphenophorus callosus Oliv.)

South
Carolina

J. O. Pepper (July 8): Many cornfields in the Pee Dee section of the State have been infested by this insect during the year and serious damage been done.

WIREWORMS (Elateridae)

Indiana

J. J. Davis (July 19): Wireworms were reported damaging corn at Marion July 1.

WHEAT WIREWORM (Agrion^etes nancus Say)

Maine

J. H. Hawkins (July 21): Injury to sweet corn, mainly to seed, causing an uneven stand has been reported. Oats are also attacked, and local areas entirely cleaned out.

SUGARCANE BEETLE (Eutheola^e rugiceps Lec.)

Alabama

J. M. Robinson (June 30): Eutheola rugiceps has been fairly active, attacking corn. However, they are not so numerous as they were last year at this date.

South
Carolina

J. O. Pepper (July 6): Specimens of this insect have been sent in from Saluda County and reported as seriously injuring a field of corn. The particular field has been in sod the past two years, which accounts for the trouble.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Indiana

J. J. Davis (July 19): A black flea beetle destroyed 10 acres of corn at Brownstown, July 1.

CORN SILK BEETLES (Luperodes spp.)

Alabama

J. M. Robinson (June 30: Luperodes davis just came in from Whitefield, Ala., attacking cornsilks. It is known as the corn silk beetle.

Mississippi

R. W. Harned (July 25): Specimens of Luperodes varicornis Lec. were received from Goss on June 27. Medium injury to corn was reported.

A SCARABAEID BEETLE (Ochrosidia immaculata Oliv.)

Nebraska

M. H. Swenk (June 25 - July 25): A belated abundance of beetles of Cyclocephala immaculata has appeared over southwestern Nebraska during middle and late July.

CORN LEAF APHID (Aphis maidis Fitch)

Kansas

J. W. McColloch (July 10): The corn leaf aphid is very abundant in the corn and sorghum fields around Manhattan. In some cases corn is showing marked injury. A report from Fredonia states that this aphid is very bad on kafir.

CORN ROOT APHID (Anuraspis maidi-radicis Forbes)

North
Carolina

Z. P. Metcalf (June, 1927): Attacking corn in Henderson County and cotton in Moore County.

Nebraska

M. H. Swenk (June 25 - July 25): The corn root aphid was much complained of during middle and late July from an area in south central Nebraska enclosed between Buffalo, Gosper, and Lincoln Counties. Many fields of younger corn have been largely destroyed by this pest, and in northern Gosper County about three fields out of every four are reported to be more or less seriously infested.

Kansas

J. W. McColloch (July 1): This aphid was sent in from Hiawatha with the information that it was bad in a cornfield there.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Wyoming

M. H. Swenk (July 18): You will be interested to know that our survey last month showed the alfalfa weevil to have advanced from about 40 miles west of the Nebraska-Wyoming line to about 8 miles west of that line. We failed to find the weevil in Nebraska at any point.

SOYBEAN

POTATO LEAFHOPPER (Empoasca fabae Harr.)

North
Carolina

Z. P. Metcalf (July 21): This pest has proved especially destructive to soybeans and peanuts early in the season.

COWPEAS

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Georgia

Oliver I. Snapp (July 20): This insect is more abundant this year than it has been for four or five years. It is doing considerable damage in some cowpea fields.

SORGHUM

KAFIR ANT (Solenopsis molesta Say)

Kansas

J. W. McColloch (July 20): On June 20 the ants were reported destroying the planted sorghum seed before germination at Cedarville. A report from St. George on June 25 stated that a 15-acre field had been replanted four times because of this ant.

GRASS

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Mississippi

R. W. Harned (July 25, 1927): Reported on Sudan grass at Skene, June 21.

SPITTLE INSECTS (Cercopidae)

Mississippi

R. W. Harned (July 25): Spittle insects are now unusually abundant on Johnson grass in the vicinity of A. & M. College.

A SOLITARY BEE (Andrena perplexa? Smith)

Maryland

P. D. Sanders (May 14): The injury to the lawn was a result of the nest-digging of the female bees. In an area one yard square 63 nests were counted. It is of interest to note that this same species was present in an adjacent lawn in injurious numbers in 1924. A treatment of carbon disulphide emulsion as rec-

commended for the Japanese beetle gave practically 100 per cent kill. The bees did not reappear in 1925. In 1926 the infestation began to build up as the bees were rather numerous but not sufficiently abundant to be injurious. In 1927, however, the infestation was severe. A treatment of carbon disulphide emulsion applied with a garden sprinkler gave excellent control.

FRUIT INSECTS

GENERAL

APHIDIIDAE

Massachusetts A. I. Bourne (July 25): Orchard plant lice are very abundant all over the State.

Missouri L. Haseman (June 28): The month has been notorious for the abundance of plant lice on grape, apple, and plum.

LEAFHOPPERS (Jassidae)

Indiana H. F. Dietz, (July 21): Leafhoppers, species not determined, have caused conspicuous malformation on apple, plum, and Norway maple nursery stock at Indianapolis, Terre Haute, and other scattered towns in the southern half of the State.

APPLE

APHIDIIDAE

Indiana H. F. Dietz (June 28): The only apple aphids that seem to be abundant are the green apple aphid, and the woolly apple aphid, Schizoneura lanigerum Hausm.

B. A. Porter (July 22): Early in the season all species of aphids were comparatively scarce in apple orchards in southern Indiana. Beginning about June 1, the apple aphid Aphis pomi DeG. increased to tremendous numbers in many orchards, and is still abundant in the vicinity of Vincennes.

Michigan R. H. Pettit (July 19): Apple aphids have curled the leaves everywhere in the State, and the injury both to the foliage and to the fruit has been very severe. Aphids of all sorts have been plentiful and troublesome. Aphids have been extremely plentiful on Norway maple, smearing the leaves with honeydew and causing the foliage to fall very freely. The leaves are now many of them falling from the trees.

APPLE APHID (Aphis pomi DeG.)

Ohio T. H. Parks (July 25): The green apple aphid is now doing damage in some orchards that were visited last week. The insect is calling for control measures and young trees have been heavily infested.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Ohio E. W. Mendenhall (July 12): The woolly apple aphid is very bad this year on apple trees in orchards and nursery stock.

Indiana J. J. Davis (July 19): The woolly apple aphid has been reported abundant throughout the southern two-thirds of Indiana and probably occurs in equal abundance throughout the State.

Mississippi R. W. Harned (July 25): Reported on apple at Vicksburg July 15 and also on apple at Lucedale on July 11.

CODLING MOTH (Carpocapra pomonella L.)

Indiana B. A. Porter (July 23): Conditions on the whole have been rather unfavorable to the codling moth. During the early part of the emergence of the moths most of the evenings were cool, which materially reduced the number of eggs laid. The destruction of most of the fruit crop in this section by a spring frost has been another factor unfavorable to the species. As a result, the total worm population in most orchards in southern Indiana is less than it has been for several years. Second-brood larvae have not yet appeared in appreciable numbers although normally they are hatching in large numbers by this time.

Ohio T. H. Parks (July 25): Adults of the summer brood began emerging in considerable numbers at Columbus July 24. The brood is later than usual and spraying for this section is being advised for the last week in July. No emergence had taken place in Ottawa County, northern Ohio, on July 22.

Missouri L. Haseman (June 28): In central Missouri the moths of the first brood reached the peak of emergence around the 4th of June, were still emerging in considerable numbers the 14th, and apparently finished the emergence in our cage on the 20th. Young worms began entering the fruit apparently between the 5th and 15th and a few of the oldest worms were approaching maturity from the 20th to the 25th. The pest has been far behind its schedule.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

West Virginia and Virginia F. E. Brooks (June 27): During a recent automobile trip through the Allegheny Mountains it was observed that tent caterpillars had defoliated many apple and wild cherry trees. Evidently this specie

is working southward from the more seriously infested regions of Pennsylvania, New York, and New England.

Tennessee A. C. Morgan (July 20): The eastern tent caterpillar has been unusually abundant, ~~titsr~~ unsightly webs completely covering many trees in the vicinity of Clarksville.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Missouri L. Haseman (June 28): Adults of the second generation began emerging June 20 to 23.

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Indiana H. F. Dietz (June 28): Infestation by the plum curculio is unusually severe. Around Indianapolis on such apples as bear fruit the apples show from four to eight stings per fruit. In the Paoli-Mitchell-Orleans fruit district about 80 per cent of the cherries, of which there is a comparatively light crop, are infested and throughout the State, taking the reports that have been received, this insect is more abundant on cherries than it has been for several years.

APPLE SEED CHALCID (Syntomaspis druparum Boh.)

Massachusetts A. I. Bourne (July 25): The first flies of the apple seed chalcid were collected in cages in the college orchard July 4 and 5.

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

West Virginia F. E. Brooks (June 27): Beetles are unusually abundant and are at present ovipositing in apple and other host trees. The abundance of the beetles appears to be due to the scarcity of woodpeckers in orchards during the past winter. A heavy crop of beechnuts last fall supplied winter food for these birds and they remained in the woods to an unusual degree. The downy woodpecker, which is normally destructive to these borers, scarcely left the woods during the winter to obtain food in orchards or at artificial feeding stations. In rather extensive collecting of rearing material of these borers in early spring not an example of destruction by woodpeckers was observed. Often 25 per cent or more of the full-grown larvae are removed from their pupal quarters during the winter by woodpeckers.

APPLE MAGGOT (Phagoletis pomonella Walsh)

Massachusetts A. I. Bourne (July 25): July 5 the first flies of the railroad worm, or apple maggot, were collected in the orchard. Up until about the 15th they were not collected in any large numbers. By the 15th, however, both in our cage experiments and in the orchard.

we found them to be present in considerable abundance, indicating the probability that at least early varieties would be fully as badly hit as was the case last year.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey
and
Maryland

L. B. Smith (July 22): Scouting for the Japanese beetle outside of the area now under quarantine has been in operation about a week. It is too early to tell whether there will be extensive spread of the general infestation but a strong movement to the south is indicated.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Massachusetts

A. I. Bourne (July 25): The crawling young of the San Jose scale began escaping from under the parent scales July 4 and 5.

Indiana

B. A. Porter (July 23): First-brood crawlers appeared about June 1, but have not been particularly abundant. Very little spotting of the fruit has been observed as yet.

POTATO LEAF HOPPER (Empoasca fabae Harr.)

Indiana

B. A. Porter (July 23): Unusually abundant, and has caused serious curling, stunting, and burning of terminal growth of apple.

EUROPEAN RED MITE (Paratetranychus pilosus Can. & Fanz.)

Connecticut

Philip Gorman (July 23): In spite of the cool weather and heavy rains until July, the mite is causing serious damage in some orchards.

Indiana

H. F. Dietz (July 21): Heavy infestations of the European red mite were found at Indianapolis.

EASTERN FIELD WIREWORM (Phelotes agonus Say)

Maine

J. H. Hawkins (May 14): Some elaterids were taken at the Experimental Farm at Highmoor. They were found in a young apple orchard climbing around the trees. It was reported that they were eating the buds. This may or may not be true, but they were present there in some numbers during the latter part of April. Unfortunately I received only three. I am sending two of them to you. If you can conveniently give me the identification of these beetles, I would very much appreciate it. (Determined by J. A. Hyslop).

Georgia

Snapp & Swingle (July 21): In 1925 the oriental peach moth infestation in the Fort Valley section of the Georgia peach belt was confined to parts of six commercial orchards. In 1926 the insect could be found in parts of only three of these orchards. A survey during the past week revealed the fact that the insect has spread this year to commercial peach orchards over practically the entire Fort Valley district. It was found throughout orchards to a point 12 miles north, 15 miles south, 6 miles east, and 2 miles west from the city of Fort Valley.

Frequent rains during the fall of 1926 and the early summer of 1927 caused rapid twig growth, which furnished an abundant supply of food for the development of the insect.

The infestation is very light throughout the area described above.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts

A. I. Bourne (July 25): Probably the most serious pest of fruit to date, at least the one that is causing the most anxiety to growers, is the plum curculio. It appears to be present in even greater abundance than last year, and even in well sprayed orchards has done a large amount of injury.

Maryland

P. D. Sanders (July): The plum curculio has been unusually abundant this year in commercial apple and peach orchards. The failure to control it is generally attributed to the abundance of the species and the excessive rain during the spraying season which tended to wash off the arsenical.

Georgia

O. I. Snapp (July 20): The peach season is over in Georgia after the shipment of around 12,000 cars. The curculio infestation was heavier this year than at any time since 1923. There were two generations, the second generation attacking the Albertas. The insect gave the most trouble in poorly-cared-for orchards, and in those that received an irregular schedule of sprays

Missouri

L. Haseman (July 28): Adults of the second brood began emerging June 25 to 28.

Texas

F. C. Bishopp (July 26): Although the first generation of the plum curculio did not appear to be especially abundant, the second generation has caused heavy damage to midsummer peaches. As high as 60 per cent of the ripening fruit has been destroyed in some instances, and many peaches were found to be infested with 3 or 4 larvae. The larvae have been emerging from peaches during the past two weeks.

Georgia

Monthly Bulletin, Bureau of Entomology, No. 157, May, 1927 : O. I. Snapp, in charge of the peach insect laboratory at Fort Valley writes that the first adult curculios there emerged from the soil

on May 24, which is the earliest first-emergence date in seven years. Two full broods are anticipated, and he is expecting second-brood larvae to infest the Hiley peaches this year. The Hiley is a midseason variety.

TARNISHED PLANT BUG (Lygus pratensis L.)

Indiana H. F. Dietz (July 21): Tarnished plant bug injury was found abundant on peach at Burns City, Terre Haute, Washington, and Vincennes.

NORTHERN LEAF-FOOTED PLANT-BUG (Leptoglossus oppositus Say)

Georgia O. I. Snapp (July 23): The plant bug responsible for most of the damage to peaches in Georgia this year as reported on July 20 has been identified by Mr. McAtee as Leptoglossus oppositus.

CHERRY

CHERRY SLUG (Caliroa cerasi L.)

Indiana J. J. Davis (July 19): The cherry slug was reported destructive to cherry from Lincoln, June 30.

BLACK CHERRY APHID (Myzus cerasi Fab.)

Indiana H.F.Dietz (June 28): The black cherry aphid has been abundant in Indianapolis, Danville, Greenwood, and Clermont.

Michigan E. I. McDaniel (July 18): The black cherry aphid has been unusually plentiful this year and has completely ruined the crop so that it was left unpicked in parts of Shiawassee County.

CHERRY MAGGOT (Rhagoletis cingulata Loew)

Michigan R. H/ Pettit (July 18): An unusual situation arose this year in the case of the white-banded cherry fruit fly. Our field cages, maintained for the purpose of determining the dates of emergence of the adult flies in the southern part of the cherry belt, actually produced adults this year after a portion of the cherries had been picked and canned. It would seem, therefore, that the cold season, at least on this occasion, delayed the insects more effectively than it did the fruit. At any rate, no sprays were required in the southwestern part of the State in order to hold the white-banded cherry fruit fly in check.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Indiana H. F. Dietz (June 28): The rusty plum aphid has been recorded abundant in Indianapolis, Danville, and Greenwood.

PEAR

PEAR PSYLLA (Psylla pyri L.)

Connecticut W. E. Britton (July 19): Attacking pear. Many leaves now brown and falling. Both fruit and leaves blackened by sooty fungus growing in the honeydew.

PLANT BUGS

Georgia O. I. Snapp (July 20): Squash bugs, southern green plant bugs, etc., have been very much more numerous in Georgia this year. They have attacked peaches, and are responsible for many ill-shaped and gnarled fruits this year.

APPLE APHID (Aphis pomi DeG.)

Mississippi R. W. Harned (July 25): Reported on pear at Lumberton on July 5.

QUINCE

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Ohio E. W. Mendenhall (July 5): The Japanese Quince (*Cydonia*) on the large estates in Springfield are badly infested with the San Jose scale.

PEACH

PEACH TWIG BORER (Anarsia lineatella Zell.)

Indiana H. F. Dietz (July 21): Injury by the peach twig borer was found at Burns City, Terre Haute, Washington, and Vincennes.

Texas F. C. Bishopp (July 25): Very few peach twig borers have been evident in the vicinity of Dallas, until last week, when the larvae were found attacking ripening Elberta peaches to some extent.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut Philop Garman (July 23): About the same infestation as last year. The early season seems to have been unfavorable. Warm weather in July brought out adults in large numbers.

Ohio T. H. Parks (July 25): Back-yard trees in the city of Columbus show injury from the larvae of this moth on almost every terminal. It is much more abundant than last year. Fruit is becoming infested. Few complaints have as yet come from commercial orchardists.

PLUM WEBSPINNING SAWFLY (Neurotoma inconspicua Norton)

Nebraska M. H. Swenk (June 25 - July 25): The plum webspinning sawfly was reported as attacking foliage of plum trees in Custer County during the first week in July.

BLUEBERRY

BLACK-LINED CUTWORM (Agrotis fennica Sausch.)

Maine C. R. Phipps (July 21): This cutworm, in company with Agrotis unicolor Walk., destroyed the blueberry buds on several acres of bushes in Cumberland and Hancock Counties (May 1 to June 14).

GRAPE

GRAPE CURCULIO (Craponius inaequalis Say)

West Virginia F. E. Brooks (June 27): At French Creek beetles are very abundant on the foliage of wild grapes and are extending their attacks to cultivated grapes. Oviposition has not yet begun, but the fruits will soon be large enough to receive the eggs, and timely spraying will be necessary in order to save the crop. The feeding marks of the beetles are at present conspicuous on the leaves.

GRAPE ROOT WORM (Fidia viticida Walsh)

Missouri L. Haseman (June 28): In Jackson County one commercial vineyard has been quite badly infested with the beetles during the month, and at Columbia the beetles are more abundant than usual.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Ohio E. W. Mendenhall (June 28): Grape leafhoppers are very abundant again in the vicinity of Columbus.

North Carolina Z. P. Metcalf (July 21): This pest has proved destructive to all kinds of grapes.

Nebraska M. H. Swenk (June 25 - July 25): Injury by the grape leafhopper to woodbine foliage continued to be occasionally reported up to the end of June.

GRAPE VINE APHID (Macrosiphum illinoisensis Shimer)

Indiana J. J. Davis (July 19): The grape aphid was reported abundant at Terre Haute July 24.

CURRENT

CURRENT APHID (Myzus ribis L.)

Indiana

H. F. Dietz (June 28): A severe infestation of the current aphid on currants was reported from " Clermont.

IMPORTED CURRENT WORM (Pteronus ribesii Scop.)

New York

E. P. Felt (July 25): This insect is common on-current and gooseberry in the Highland Park collections (R. E. Horsey).

PECAN

WALNUT CATERPILLAR (Datana integerrima G. & R.)

South
Carolina

J. O. Pepper (June 22): Specimens of this insect were received from Denmark and reported as being abundant on pecan.

PECAN BUD-MOTH (Proteopteryx bolliana Sling.)

Mississippi

R. W. Harned (July 25): Proteopteryx bolliana reported attacking pecan at Marks and Skene.

A PHYLLOXERA (Phylloxera notabilis Perg.)

Mississippi

R. W. Harned (July 25): Phylloxera notabilis was reported as attacking pecan at Helena and Skene.

PECAN LEAF CASE BEARER (Acrobasis nebulella Riley)

Mississippi

R. W. Harned (July 25): Acrobasis nebulella was reported as attacking pecan at Holly Springs.

CITRUS

MEXICAN FRUIT WORM (Anastrepha ludens Loew)

Texas

R. E. MacDonald (August 1): No further specimens of the Mexican fruit worm have been discovered since June 23, at which time definite determination had been made of 10 specimens at Mission, Hidalgo County and five near Harlingen, Brownsville, and San Benito in Cameron County. Many other suspected larvae collected in April were not reared.

CITRUS MEALYBUG (Pseudococcus citri Risso)

California

Monthly News Letter, Los Angeles County Hort. Comm (June 18): During the month of May the Los Angeles County Insectary produced and liberated in the Citrophilus-mealybug-infested citrus orchards of the County, 1,612,000 *Cryptolaemus* according to H. M. Armitage, Deputy Horticultural Commissioner, Los Angeles County. These, combined with the half million liberated during April, have made it possible to cover at an early date all properties seriously infested with the mealybug in Los Angeles County, which should permit the control of the pest with a minimum of injury to the trees and fruit. These beetles have been distributed over 364 infested properties representing 3,465 acres of citrus scattered through the Rivera, Downey, North Whittier Heights, Covina, Baldwin Park, San Dimas, LaVerne, Claremont, and San Fernando areas.

Mealybug infestations have been somewhat heavier this season. Short hot spells have aided the development of the mealybug while the prolonged cool weather has retarded the activities of the *Cryptolaemus* and other native natural enemies. However, the *Cryptolaemus* are now showing marked activity and rapid control of the mealybug for this season is anticipated.

TRUCK - CROP INSECTS

MISCELLANEOUS FEEDERS

GREEN PEACH APHID: (Myzus persicae Sulz.)

Connecticut R. B. Friend (July 14): Aphids are abundant on all truck crops.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Illinois C. C. Compton (July 9): This leafhopper is much more abundant than usual, severely injuring potatoes and beans in the northern section of the State.

BLISTER BEETLES (Meloidae)

Alabama J. M. Robinson (June 30): These beetles have appeared in gardens and fields, attacking even soybeans as well as other field crops. The activities of these beetles have slackened according to the reports sent to our office.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Tennessee A. C. Morgan (July 20): The Colorado potato beetle is unusually scarce in the vicinity of Clarksville.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Massachusetts A. I. Bourne (June 28): Potato flea beetles are present in normal abundance.

Indiana H. F. Dietz (June 28): The potato flea beetle was unusually abundant on early potatoes around Paoli. Numerous reports of this insect have been received from Indianapolis, where it has been abundant on tomatoes.

BLISTER BEETLES (Meloidae)

Kansas J. W. McColloch (July 20): On June 26 blister beetles were reported appearing in potato fields at Hill City. A report of injury to potatoes was also received from Woodston on July 12.

Nebraska M. H. Swenk (June 25 - July 25): A few reports of injury to potatoes by blister beetles were received during middle and late July, these principally concerning the striped blister beetle, Epicauta leminscata Fab., but also in Dawson County the large black blister beetle, E. corvina Lec.

STRIPED BLISTER BEETLE (Epicauta vittata Fab.)

Indiana H. F. Dietz (July 21): Severe damage to tomatoes by the striped blister beetle was reported from Franklin.

MARGINED BLISTER BEETLE (Epicauta cinerea marginata Say)

Tennessee A. C. Morgan (July 20): This blister beetle is abundant in restricted areas on potatoes and tomatoes in the vicinity of Clarksville.

POTATO APHID (Illinoia solanifolii Ashm.)

Massachusetts A. I. Bourne (July 25): Locally there have been found numerous fields of potatoes which show considerable infestation by the potato aphid. In one or two cases the infestation is heavy enough to threaten injury in the near future unless checked by natural enemies or spraying.

Connecticut W. E. Britton (July 19): Macrosiphum solanifolii Ashm. is more abundant than last year. Many fields are seriously infested in Milford, Middletown, Canterbury, Hebron, Wethersfield, East Hartford, and Norwich.

CORN EAR WORM (Heliothis obsoleta Fab.)

Mississippi K. L. Cockerham (June 27): These insects are destroying the fruit of tomato at Biloxi.

POTATO STALK BORER (Trichobaris trinotata Say)

Ohio E. W. Mendenhall (June 27): Considerable damage to the potato crop by the potato stalk borer was reported from Franklin County this spring.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Ohio E. W. Mendenhall (July 21): The potato leafhopper is quite general over the northwestern portions of the State attacking potato.

Iowa C. J. Drake (July 12): The potato leafhopper is unusually abundant, and many potato fields have been badly injured by hopperburn. The injury is widespread and occurs throughout the State.

North Carolina Z. P. Metcalf (June): The bean leafhopper is more abundant than last year over the whole of the State, attacking Irish potatoes, peanuts, and soybeans.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Ohio T. H. Parks (July 25): A field of potatoes was nearly destroyed

in Lake County in June. Have had several reports of injury to seed corn, but no more than in the average year.

CABBAGE

HARLEQUIN BUG (Murgantia histrionica Hahn)

- North Carolina C. H. Brannon (July 20): The harlequin bug has been reported from many sections of the State as very destructive to cabbage and collards.
- Tennessee A. C. Morgan (July 20): One severe outbreak of the harlequin bug has been observed in the vicinity of Clarksville.
- Alabama J. M. Robinson (June 30): Murgantia histrionica is in the usual abundance this year at Auburn.
- L. W. Brannon (July 5): This insect is continuing to be a very serious pest in the locality of Birmingham attacking cabbage, collards, and turnips. First-generation adults were seen in the field on June 3.
- Kansas J. W. McColloch (July 8): The only report of the harlequin bug received so far this year came from Walnut on July 8 as attacking gardens.
- Mississippi R. W. Harned (July 25): A number of complaints in regard to the harlequin bug, some of them accompanied by specimens, have been received from various parts of the State. This insect is apparently more abundant than usual throughout the State. In the early spring there were many complaints received at this office. Now these insects are again attracting considerable attention.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comptana Frohl.)

- Ohio E. W. Mendenhall (July 26): The strawberry leaf rollers are quite bad this year on strawberry plants in southwestern Ohio.
- Indiana H. F. Dietz (June 28): The strawberry leaf roller has been reported as severe at Peru and Goshen.
- Kansas J. W. McColloch (July 6): A bad infestation is reported from a number of strawberry beds at Junction City.

MYRIAPODA

- Indiana J. J. Davis (July 19): Myriapods damaged strawberries at Monticello June 28. Earlier in the season similar injury was reported from Southern Indiana, the myriapods hollowing out the berries.

LATE STRAWBERRY SLUG. (Empria maculata Nort.)

Nebraska

M. H. Swenk (June 25-July 25): The last reports of injury by the late strawberry slug were received from northern Nebraska during the second week in July.

STRAWBERRY ROOT APHID (Anuraphis forbesi Weed)

North
Carolina

C. H. Brannon (July 21): The strawberry root louse seems to be especially destructive this year in the strawberry section, 50 per cent of the strawberries having been destroyed.

RED SPIDER (Tetranychus telarius L.)

California

Monthly News Letter, Los Angeles County Horticultural Commission, (June 18): Damage by the common red spider has caused a loss of approximately one-half of the second crop of strawberries in the Inglewood and Hawthorne districts according to Mr. Anzai, president of the Japanese Berry Growers' Association. As the spider damages the under side of the leaves, it is impossible to attempt control without damaging the fruit. Very poor results have been obtained in past years with the oil sprays and sulphur dusting. For this reason very few growers have attempted any method of control this year. Aside from the injury to the plant, the damage to the appearance of the affected berries is such that they sell for as much as 75 cents a crate less than unaffected berries of good appearance.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Iowa

C. J. Drake (July 12): The asparagus beetle is very common around Muscatine, Ames, and Des Moines. In the vicinity of Muscatine new asparagus beds have suffered extensively from the asparagus beetle this spring.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Pennsylvania

N. F. Howard (June 28): The Mexican bean beetle has been reported from Erie, Erie County.

J. N. Knull (July 22): Larvae destroying bush beans at Etters.

Maryland

P. D. Sanders (July 22): This is the first recorded appearance of the Mexican bean beetle in either Washington or Frederick Counties. It is attacking pole and bunch beans. It was present in three gardens at Smithbury and in one field near Frederick.

- Virginia J. E. Graf (July 7): Dr. Harter, of the Bureau of Plant Industry, reported yesterday that the bean plants at the Arlington Farm, Va. showed insect injury. Upon investigation by W. H. White of this office the insect responsible for this injury was definitely determined as the Mexican bean beetle. It has also been reported from Norfolk. (July 29): Mr. Poos, of the Virginia Truck Experiment Station reported on July 13 that he collected larvae, pupae, and adults on Kentucky Wonder beans in three backyard gardens. He also states that it has been found in Prince George County and several of the counties lying between the Rappahannock and Potomac Rivers.
- North Carolina R. W. Leiby (July 6): An unprecedented spread of the Mexican bean beetle appears to have taken place this spring and early summer. The line of infestation run in the fall of 1926 extended from Union County northeastward through Alamance and Caswell Counties. The outlying eastern points where the beetle has been found are Raleigh in Wake County on July 5, and Lumberton in Robeson County on June 27, which are approximately 50 and 75 miles respectively east of the 1926 line. Scouting to determine other points of infestation is now being done by J. A. Harris, Assistant. The first-generation pupae are now beginning to appear at Raleigh.
- North Carolina C. H. Brannon (July 20): The Mexican bean beetle has spread eastward into Wake, Robeson, and Cumberland Counties.
- South Carolina J. O. Pepper (July 19): C. O. Eddy reports first-generation adults of the Mexican bean beetle now emerging in large numbers. Injury is increasing rapidly. The area of damage in the infested zone is increasing where eradication occurred during succeeding dry years.
- Indiana J. J. Davis (July 19): The Mexican bean beetle has been more destructive and widespread this season than ever before. The northern range of destructiveness seems to be Indianapolis and Richmond and the western range, Owen, Green, Martin, and Dubois Counties.
- Indiana E. E. Dietz (July 21): The Mexican bean beetle has been reported as destructive from Jefferson, Henry, and Owen Counties.
- Michigan R. H. Pettit (July 21): The Mexican bean beetle has been reported from Lambertville, Monroe County.
- Tennessee A. C. Morgan (July 20): The Mexican bean beetle has appeared in Montgomery County for the first time in injurious numbers. Reports come in from all over the county.
- Tennessee L. W. Brannon (June 28): Damage to beans due to the Mexican bean beetle in the vicinities of Newport, Birmingham, Johnson

City, and Chattanooga is very severe this season. Some patches of beans were completely destroyed. Damage worse than since 1923. Overwintered adults were fairly numerous. Larvae numerous and also pupae. A few first-generation beetles are emerging.

GOLDEN TORTOISE BEETLE (Metriona bicolor Fab.)

Mississippi

R. W. Harned (July 25): Specimens identified as Metriona bicolor were received from Blue Springs on June 29 with the report that they were collected from bean plants.

BEAN LEAF BEETLE (Cerrotoma trifurcata Forst.)

Mississippi

R. W. Harned (July 25): The bean leaf beetle was collected on beans at Blue Springs on June 29. This insect occurs throughout the State.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Mississippi

R. W. Harned (July 25): Specimens of the southern green plant bug were received from Port Gibson on July 8 with the report that they were seriously damaging pole and lima beans. Specimens were also received from Turnbull on the same date with the information that they were causing serious injury to tomatoes and lima beans.

New York

Rodney Cecil (July 5): The seed corn maggot has caused considerable damage to the bean crop in this section (Geneva). A series of counts in various fields of beans show a loss of from 5 to 30 per cent. The cool weather seems to have delayed emergence of the flies, and beans planted after the 15th of June suffered the most from the maggot. June 15 to 20 is usually considered the best date for planting beans in this section to escape injury from the seed corn maggot, but this year beans planted between the 15th and 20th suffered the most injury.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Wisconsin

J. E. Dudley, Jr. (July 25): Combined attack of all the aphid's enemies was not able to prevent the daily increase of aphids until a severe wind and rain storm on July 11 reduced the infestation until at the present time it is almost negligible. Another rain on the 16th further reduced the infestation from where it has not again risen.

CUCUMBERS AND MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Indiana

J. J. Davis (July 19): The striped cucumber beetle was reported destructive to melons at Rockville, July 7.

- Maine C. R. Phipps (July 21): Diabrotica vittata collected at Monmouth on cucumber and squash. Eggs taken July 7. The insect is widespread.
- Illinois C. C. Compton (July 17): At this time the striped cucumber beetle has injured cucumbers in the Chicago trucking district much less than usual.
- Iowa C. J. Drake (July 12): The striped cucumber beetle has been extremely abundant in Story County this spring. Numerous reports of injury have also been received from the pickle region of southwestern Iowa.
- Tennessee A. C. Morgan (July 20): The cucumber beetle has caused considerable damage in scattered localities.
- Kansas J. W. McColloch (July 20): The striped cucumber beetle has been very prevalent on cucumbers and melons this year in the following counties: Logan, Decatur, Rooks, Reno, Chase, Marshall, Osage, and Linn.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- Mississippi R. W. Harned (July 25): The 12-spotted cucumber beetle was feeding on bean and cucumber plants at Boyle on June 29. Moderate damage was reported. This species is unusually prevalent in all parts of the State.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

- Iowa C. J. Drake (July 12): The seed corn maggot did a considerable amount of damage in a melon field near Fayette during the months of May and June.
- Michigan R. H. Pettit (July 25): For several years reports from the Heinz Pickle Company have come in, complaining that maggots were working in the roots of cucumber vines. Finally some of these maggots were obtained in a living condition and bred. The adults prove to be Hylemyia cilicrura as determined by C. T. Greene, United States Bureau of Entomology. Specimens have been reared from Holland, Mich., and also from a farm almost on the line between Indiana and Michigan.

PICKLE WORM (Diaphania nitidalis Stoll)

- Mississippi K. L. Cockerham (June 27): Diaphania nitidalis Stoll was reported as destroying the entire crop of canteloupes on one farm at Biloxi.

COTTON APHID (Aphis gossypii Glov.)

- Indiana J. J. Davis (July 19): The melon aphid damaged cucumbers at Silver Lake June 26.

Mississippi K. L. Cockerham (June 27): Aphis gossypii was reported as seriously damaging canteloupes and killing many plants on one farm at Biloxi.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Virginia W. S. Abbott (July 22): Eggs of the squash bug are much more abundant at Vienna and Fairfax than usual.

South Carolina J. O. Pepper (July 15): Specimens of this insect have been received from various parts of the State and reported as being present in large numbers on squash vines.

SQUASH BORER (Melittia satyriniformis Hüb. n.)

South Carolina J. O. Pepper (July 14): This insect has been found in almost all parts of Spartanburg County and is causing injury.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Wisconsin J. E. Dudley, Jr. (June 24): Owing apparently to enforced inactivity of this insect, which emerged from hibernation early in May, beetles with the advent of warm weather are exceedingly ravenous and are concentrated on corners and ends of fields of cucurbits where the plants attacked are completely destroyed in one night. The spread of beetles generally over cucurbit fields has been very slow this spring. Ground beetles and several species of ants attack dead beetles so quickly that it is almost impossible to determine per cent of kill unless observations are taken hourly. Occasionally apparently normal beetles hiding under clods of dirt are found attacked by these enemies.

SQUASH BEETLE (Epilachna borealis Fab.)

Tennessee L. W. Brannon (June 29): Adults of Epilachna borealis were found feeding on squash in this locality (Johnson City). No larvae were seen.

ONIONS

ONION THRIPS (Thrips tabaci L.)

Alabama R. W. Harned (July 25): Specimens of the onion thrips were collected on onion plants at Wilmer on June 24.

ONION MAGGOT (Hylemyia antiqua Meig.)

Indiana J. J. Davis (July 19): The onion maggot was reported destructive at Hammond June 30 and at Hamilton July 17.

Michigan

R. H. Pettit (July 18): The onion maggot has been exceptionally troublesome this year.

Wisconsin

J. E. Dudley, Jr. (June 24): Adults issuing from 10-foot check cages over cull onions at the rate of about 75 per day. In some cases 300 have already issued. Excessive rains in May and early June apparently drowned out almost 100 per cent of maggots in certain parts of fields and cull rows which were lowest.

Iowa

C. J. Drake (July 12): The onion maggot has been reported from Clear Lake and St. Ansgar. Injury has not been extensive.

BEET

BEET ARMYWORM (Laphygma exigua Hübn.)

California

A. C. Davis (June 30): In Norwalk practically every plant has one or more worms, and about one in 25 is defoliated. In Huntington Beach about one plant in 10, on an average, is infested. Some areas more heavily infested than this.

J. C. Elmore (July 5): The outbreak of the beet armyworm which was reported several days ago seems to have subsided rather suddenly. Very few larvae can be found on the plants at this time. Pupae were found to be numerous in the soil two to three inches from the surface where the infestation has been serious. One species of Calosoma (cancellatum)? was taken and several carabid larvae were found feeding on the pupae.

BEET WEBWORM (Loxostege sticticalis L.)

North
Dakota

C. N. Ainslie (July 2): The spring brood of adults is appearing in greater numbers than for several years. Emergence has been delayed by the abnormally cold spring. The sugar-beet growers anticipate trouble from this pest this season.

BEET LEAF MINER (Pegomya hyoscyami Panz.)

Massachusetts

A. I. Bourne (July 25): Regarding the beet and spinach leaf miner, Mr. Whitcomb says that several fields of beets in eastern part of Hampshire County have been plowed under because of injury and that other fields were badly infested.

SWEET POTATO

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Mississippi

K. L. Cocke (June 27): Rather severe damage to the leaves of sweet potatoes by the banded cucumber beetle at Biloxi has been reported.

Mississippi K. L. Cockerham (June 27): Aphis gossypii was reported as seriously damaging canteloupes and killing many plants on one farm at Biloxi.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Virginia W. S. Abbott (July 22): Eggs of the squash bug are much more abundant at Vienna and Fairfax than usual.

South Carolina J. O. Pepper (July 15): Specimens of this insect have been received from various parts of the State and reported as being present in large numbers on squash vines.

SQUASH BORER (Melittia satyriniformis Hüb. n.)

South Carolina J. O. Pepper (July 14): This insect has been found in almost all parts of Spartanburg County and is causing injury.

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- Iowa C. J. Drake (July 12): The onion maggot has been reported from Clear Lake and St. Ansgar. Injury has not been extensive.

BEET

BEET ARMYWORM (Laphygma exigua Hüb.)

- California A. C. Davis (June 30): In Norwalk practically every plant has one or more worms, and about one in 25 is defoliated. In Huntington Beach about one plant in 10, on an average, is infested. Some areas more heavily infested than this.
- J. C. Elmore (July 5): The outbreak of the beet armyworm which was reported several days ago seems to have subsided rather suddenly. Very few larvae can be found on the plants at this time. Pupae were found to be numerous in the soil two to three inches from the surface where the infestation has been serious. One species of Calosoma (cancellatum)? was taken and several carabid larvae were found feeding on the pupae.

BEET WEBWORM (Loxostege sticticalis L.)

- North Dakota C. N. Ainslie (July 2): The spring brood of adults is appearing in greater numbers than for several years. Emergence has been delayed by the abnormally cold spring. The sugar-beet growers anticipate trouble from this pest this season.

BEET LEAF MINER (Pegomya hyoscyami Panz.)

- Massachusetts A. I. Bourne (July 25): Regarding the beet and spinach leaf miner, Mr. Whitcomb says that several fields of beets in eastern part of Hampshire County have been plowed under because of injury and that other fields were badly infested.

SWEET POTATO

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

- Mississippi K. L. Cockerham (June 27): Rather severe damage to the leaves of sweet potatoes by the banded cucumber beetle at Biloxi has been reported.

TORTOISE BEETLES (Cassidinae)

Mississippi

R. W. Harned (July 25): Tortoise beetles were sent to this office on July 11 from Holly Springs where they were reported as damaging sweet potato plants. Three species were present in this shipment of specimens: Metritona bicolor Fab. M. bivittata Say. and Chelymorpha cassidea Fab.

CARROT

CARROT RUST FLY (Psila rosae Fab.)

Massachusetts

A. I. Bourne (July 25): Mr. Whitcomb of the Field Station at Altham reports on the carrot rust fly as follows: "Several home garden patches of early planted carrots completely destroyed. Later plantings infested, but not seriously as yet."

PARSNIP

PARSNIP WEBWORM (Depressaria heracliana DeG.)

Indiana

J. J. Davis (July 19): The parsnip webworm was received from various parts of the State as possibly the European corn borer. It was always sent in from wild parsnip.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

California

J. C. Elmore (July 1): The first field infestation of the pepper weevil this year has been found near Santa Ana. Overwintering adults were found early in April on overwintering plants, but none have been found since in Orange County until July 1. The infestation referred to above is very light at this time. (July 7): A 4-acre field of pimento peppers adjacent to a field of overwintering plants where the weevils were numerous in April of this year was found to be infested. Thirty larvae were taken in butts. No adults were taken. About ten days of warm weather have had some effect on the development of the weevil no doubt. Other infestations are expected in other localities. (July 14): The pepper weevil has been found to be well distributed over the pepper growing section of Orange County in the last few days, and indications are that the losses will be heavy in a large number of fields this year. The adults of the first spring generation have just begun to emerge.

BEET WEBWORM (Laphygma exigua Hüb. n.)

California

J. C. Elmore (June 30): Generally distributed in pepper fields in the county, but numerous in certain areas. The larvae have attacked every plant in parts of some fields, eating out the more

tender leaves and in some cases completely defoliating the plants. More damage is noticed near pigweed patches. The pupae of some dipterous parasite are commonly found near dead larvae of the armyworm. *Laphygma exigua* has been found on peppers for three years, but not in such destructive numbers before.

R. E. Campbell (July 1): Larvae are feeding mostly on weeds, particularly *Amaranthus*, but to a considerable extent on young peppers. In several fields damage is considerable, and growth will be checked, but there is not entire defoliation. Worms are migrating from weeds to peppers in several places. Observed on weeds and peppers in Los Angeles County, also 800 acres of pepper affected.

S O U T H E R N F I E L D - C R O P I N S E C T S

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

B. R. Coad (Cooperative Report June 16): Comparing weevil survival in cages this year and in 1926 it was noted that a greater survival was recorded this year at Florence, S. C., College Station, Tex., Aberdeen, N. C., Raymond, Miss., Rocky Mount, N. C., A. & M. College, Miss., Poplarville, Miss., and Holly Springs, Miss., while a greater survival was recorded in 1926 at Auburn, Ala., Baton Rouge, La., and Experiment, Ga.

North
Carolina

R. W. Leiby (June 16): In the southern portion of the State examinations were made in 12 fields on June 6 and 14, of a total of 5065 plants and 43 weevils were found. This was an average of 1 weevil to 118 plants. The first weevil was found at Tarboro in the northern portion of the State June 8, which was 18 days earlier than in 1926. From June 15 to 30 in the Aberdeen section (Robeson and Scotland Counties) a total of 2,900 squares were examined in 9 different fields of which 294 were punctured. This was an average infestation of 10.1 per cent, the range being from 0 to 24 per cent. The plants averaged from 3 to 5 squares each. In the Rocky Mount section plants average about one square each. From May 26 to June 29 a total of 20,100 plants were examined and 4 weevils were found. This is an average of 1 weevil to 5,025 plants.

C. H. Brannon (July 20): The cotton boll weevil is generally more destructive than last year.

South
Carolina

C. O. Eddy (July 2): No weevil activity has been noted in the section of Clemson College. A number of reports have been made but all seem doubtful except in the extreme eastern portion of the Piedmont Section.

E. W. Dunnam (July 5): From June 27 to July 2 records of weevil infestations were made on a large number of plantations in the vicinity of Florence. The average infestation was 15.78 per cent. The average infestation during the same week in 1926 was 1.5 per cent, and in 1925 it was 13.6 per cent.

C. O. Eddy (July 19): Boll weevil infestations small and scattered in the Piedmont section.

Georgia

O. I. Snapp (July 1): Weevils are fairly abundant in Houston and in adjoining and near-by counties. There has already been some dusting with calcium arsenate in the Fort Valley section for weevil control. Some rain was reported on 17 days during June, and with a good source of weevil infestation cotton growers are anticipating considerable trouble from the insect this year. (July 20): The boll weevil is more abundant than usual in Middle Georgia. Considerable damage is being done in some fields. The almost daily rains since the sixth of June have materially aided in the development of this insect in this region.

Tennessee

S. P. Dent (June 27): Reports indicate a rather widespread light infestation of weevils near Somerville.

Alabama

J. M. Robinson (June 30): The boll weevil is very active at Auburn. The first-generation adults are out feeding on and puncturing the squares. (July 5): A summary of reports from county agents and vocational agricultural teachers shows that there is a general and unusually heavy weevil infestation in the central and southern parts of the State. In southern Alabama cotton is well advanced for this season of the year, mature bolls being common. The first generation of weevils are emerging and some are now depositing eggs. Weather conditions and size of cotton are such as to assure almost 100 per cent emergence of this generation of weevils. On July 27 and 28 the average infestation was 11.9 per cent on dusted plats at Auburn compared to 20.4 per cent on the undusted plats.

Mississippi

Miss. State Plant Board (July 4): The heavy weevil injury reported by the State Plant Board a week ago has continued during the past week, according to observations made by inspectors of the Board on 99 farms in 23 counties. The general prevalence of weevils is shown by their presence on 82 out of 99 farms. Infestations running above 20 and 30 per cent were reported from several counties.

Louisiana

W. E. Hinds (June 14): The first weevil was found in the field near Baton Rouge on May 30 when a female was captured and feeding punctures made by her were noted but no egg punctures were found. Cotton has been blooming since June 1 on some of the cotton breeding plats particularly but no other weevil infestation evidence has been noted thereon.

B. R. Coad (July 4): On July 4 square examinations were made in

9 fields of cotton that were not overflowed. The punctured squares in these fields ranged from 1 to 11.8 per cent, the average being 7.1 per cent.

Texas

H. J. Reinhard (June 16): In the lower Rio Grande Valley the boll weevil is doing considerable injury in the irrigated section at La Feria. No complaints of injury have been received outside of this area.

F. L. Thomas (July 5): Ideal weather for the multiplication of weevils has prevailed for the past four weeks. Infestation is now very heavy in some sections, amounting to 50 per cent and in some fields in the wooded sections 100 per cent. It has been very unusual weather for Texas. (July 13): Boll-weevil infestations range from 0 in young cotton to 95 per cent on large plantations in the Brazos Bottom. An aeroplane company has three ships working in this area and plans to dust 11,000 acres. Boll worms are also just beginning to become abundant in many sections of central Texas. Fifteen counties in eastern Texas report boll-weevil injury. The crop in Williamson County, one of the largest cotton-growing counties of the State, seems to be very good with very little boll weevil injury.

F. C. Bishopp (July 26): Boll weevils are prevalent throughout northern Texas, and some report them to be sufficiently numerous to cause a large percentage of the squares to fall. Continued rains are promoting large stalk growth, and if these continue weevil injury may be rather heavy.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

North
Carolina

R. W. Leiby (June 14): Cotton flea hoppers are fairly abundant in the section from Red Spring to Laurinburg, with a number of blasted squares evident. (July 1): No cotton flea hoppers observed but some supposedly hopper damage has been seen at Rocky Mount.

South
Carolina

C. O. Eddy (July 2): Cotton flea hoppers developed in large numbers on evening primrose and some of these migrated to cotton, causing only a very small amount of damage. Infestation of hoppers on both evening primrose and cotton is much less than before the long, cold, wet weather of the last of June. Infestation on croton is building up slowly. (July 19): The cotton flea hopper is developing in moderate numbers on croton. Very few are on cotton and injury is negligible.

E. W. Dunnam (July 5): We have received no complaints of hopper damage in this section (Florence) of the State this season.

Georgia

O. I. Snapp (July 1): We have very few complaints of the cotton hopper in middle Georgia this year.

Tennessee

S. P. Dent (June 27): Within the past week cotton hoppers have become general. Today 100 plants were examined in four fields and hoppers found to be plentiful. From 30 to 75 per cent of the forms have been destroyed by them.

Alabama

J. M. Robinson (June 30): The cotton flea hopper is not appearing in large numbers in Alabama as yet. (July 5): Cotton flea hoppers have not shown up in southern and central Alabama in very large numbers, as only a few adults and nymphs have been found, either by sweeping or close observation.

Mississippi

Miss. State Plant Board (July 4): Though cotton hoppers are now present in fields, only very slight injury has been reported this season, which is in marked contrast to the heavy damage occurring on the same date last year.

Texas

F. L. Thomas (July 5): Complaints of cotton flea hopper damage have been received from only one section of the State and from there for only a short period. This was in the vicinity of Wharton County.

A Correction.

The note in the Insect Pest Survey, Vol. 7, No. 4, p. 121, referred to the entire number of flea hoppers collected from six different experimental plats located at College Station, Corpus Christi, San Antonio, Troup, Weslaco, and Wharton.

COTTON APHID (Aphis gossypii Glov.)

North
Carolina

R. W. Leiby (June 14): Lice are generally present on cotton about the same as at this season in other years.

Mississippi

R. W. Harned (July 25): Aphis gossypii was reported on cotton at Michigan City on June 20.

Louisiana

W. E. Hinds (June 14): Cotton plant lice are abundant in spots but their parasites and predators are also abundant and should control the early-season infestation.

Texas

H. J. Reinhard (June 16): The first and only complaint this season of louse injury to cotton was received June 15 from Needville in Fort Bend County.

COTTON LEAF WORM (Alabama argillacea Hübn.)

Tennessee

T. F. McGehee (June 15): One specimen of leaf worm was received from S. P. Dent, county agent at Somerville. Mr. Dent collected four specimens at Somerville on June 15.

Texas

F. L. Thomas (July 5): Leaf worms are now abundant in some fields

in the vicinity of Corpus Christi. Cotton that has been stripped by leaf worms is common in the territory as far northward as San Marcos and eastward to Houston. A definite report was also received today of the presence of one moth and one caterpillar in Hill County.

THRIPS (*Thysanura*)

South Carolina C. O. Eddy (July 2): Cotton seedlings were injured more severely by thrips than all other cotton insects throughout most of the Piedmont section. Three species were found on this injured cotton. Dwarfed seedlings having ragged and malformed leaves were common.

RED SPIDER (*Tetranychus telarius* L.)

South Carolina J. O. Pepper (July 10): A few local infestations of the red spider on cotton have been located in the Coastal Plains region. The majority of infested spots are traced back to pokeweeds as their origin.

Mississippi R. W. Harned (July 25): The first complaint of the year in regard to the red spider on cotton received on July 11 from Cleveland. This complaint was accompanied by specimens. Cotton plants infested with this species were received from Holly Springs on July 18 and on July 22 from Lula and Senatobia.

TOBACCO

TOBACCO FLEA BEETLE (*Epitrix parvula* Fab.)

Tennessee A. C. Morgan (July 20): The tobacco flea beetles are more numerous and injurious than usual in the vicinity of Clarksville.

TOMATO SUCKFLY (*Dicyphus minimus* Uhler)

Florida F. S. Chamberlin (July 19): Two fields of bright tobacco in Jackson County are very heavily infested with the tobacco suckfly. No other serious infestations have been observed.

TOMATO WORM (*Protoparce sexta* Johan.)

Tennessee A. C. Morgan (July 20): Tobacco hornworms were more than usually abundant for the early season in the vicinity of Clarksville.

A WEBWORM (*Crambus* sp.)

Tennessee A. C. Morgan (July 20): Sod webworms have been more than usually abundant on tobacco in the vicinity of Clarksville.

SUGARCANE

SUGARCANE BEETLE (Euethola rugiceps Lec.)

Mississippi R. W. Harned (June 22): Complaints accompanied by specimens of the insect continue to be received at this office in regard to the rough-headed corn stalk beetle or sugarcane beetle. Corn and sugarcane are the crops that are being injured in most cases, although in one or two instances cotton stalks have been attacked. One man reported that 75 per cent of his sugarcane had been injured by these beetles.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana T. E. Holloway and W. E. Haley (June 21): The third generation of the sugarcane moth borer seems to be well started in the vicinity of New Orleans and other points in southern Louisiana. Hatched and parasitised eggs, work of the first instar on the leaves, and larvae of the third instar in the stalks were found on this date on sugarcane. This is at least a month early for the third generation.

FOREST AND SHADE-TREE INSECTS

MISCELLANEOUS FEEDERS

PERIODICAL CICADA (Tibicina septendecim L.)

Virginia W. J. Schoene (July 18): A fruit grower at Waynesboro informed me that the infestation of locusts in 1927 extended from the Valley to the top of the ridge on the west side of the mountain, whereas next year the locusts will appear on the east side of the mountain. They have been reported from the following counties: Augusta, Bedford, Botetourt, Roanoke, Rockbridge, Rockingham, Russell, Scott, Washington, Wise, and Allegheny.

T. M. Holland (July 6): It is locust year at Moneta.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

New York E. P. Felt (July 25): Females of the white-marked tussock moth were laying eggs July 19. There has been a considerable infestation at Rochester (R. E. Horsey). This insect has been observed in some sections in Buffalo though not nearly so abundantly as in former years (M. H. Clark, Jr.).

Ohio E. W. Mendenhall (June 28): Sycamore and elm trees are badly infested with the white-marked tussock moth and the trees are being defoliated by them. (July 5): The white-marked tussock moth is eating the leaves and badly infesting the elm, linden,

and sycamore trees and has been found in abundance on wisteria vines in Springfield and vicinity.

Indiana

H. F. Dietz (June 28): The first outbreak of the tussock moth at Indianapolis was reported to us on June 10. Since that time it has been reported daily from various parts of Indianapolis. Out-of-State reports have been received from Franklin, Anderson, and Milroy.

J. J. Davis (July 19): The tussock moth caterpillar was first reported defoliating maple and other shade trees June 27. This caterpillar is abundant throughout the northern two-thirds of the State.

Illinois

C. C. Compton (July 17): The white-marked tussock moth is more abundant in northern Illinois than at any time during the past six years. Observations indicate that parasites will check the second brood.

Iowa

C. N. Ainslie (July 21): After a partial disappearance for several years this species is again multiplying and is likely to do severe injury by another season unless measures are employed for the destruction of the egg masses this fall.

Nebraska

M. H. Swenk (June 25-July 25): All over the eastern part of Nebraska the white-marked tussock moth has developed a supernormal abundance during the period covered by this report, and in some localities the caterpillars have seriously injured the foliage of the trees.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

T. H. Parks (July 25): There have been more complaints than usual of bagworm injury to fruit and shade-tree plantings. Complaints come from southern and central counties. In one case the insect had defoliated apple trees. Arborvitae was also attacked.

E. W. Mendenhall (July 9): The bagworm is beginning to put in its appearance in southwestern Ohio. I find it worse on evergreens and shade trees in towns and cities. (July 25): Norway maples and boxelder trees are being riddled by the bagworm in different parts of Columbus.

Indiana

J. J. Davis (July 19): The bagworm was reported damaging cedar at Cynthiana July 2, soft maple at Princeton July 12, and soft maple at Evansville, July 18.

H. F. Dietz (July 21): The bagworm moth has been an unusually severe shade-tree pest in Indianapolis, Evansville, Washington, and Vincennes. It has also been found more abundant in nurseries this year than previously.

- Alabama J. M. Robinson (June 30): The bagworms are very active on cedar and arborvitae at Auburn.
- Kansas J. W. McColloch (July 20): Reports of bagworm injury are just beginning to come in. On July 19 damage was reported to cedars at Manhattan and Irving.

- Mississippi R. W. Harned (July 25): Specimens of the common bagworm on arborvitae were received recently from Macon.

GYPSY MOTH (Porthetria dispar L.)

- Maine C. R. Fhipps (July 21): The gypsy moth has been on the increase during the past few years. It produced severe defoliation in several localities in Cumberland County (July 7).

TWIG GIRDLER (Oncideres cingulata Say)

- Virginia F. E. Brooks (June 27): At Petersburg, where twig girdlers have been prevalent and destructive to hickory and persimmon for the past ten years, relatively few twigs were girdled last fall. The prolonged outbreak of this pest in parts of Virginia and the Carolinas appeared to be declining.

BLACK CARPENTER ANT (Camponotus herculeanus pennsylvanicus DeG.)

- Ohio E. W. Mendenhall (July 4): Some of the old shade trees of historical character of Worthington are infested with the black carpenter ants, which are doing more or less damage.

A CERAMBYCID BEETLE (Pseudibidion unicolor Rand.)

- Virginia F. E. Brooks (June 7): Numerous young hickory and pecan trees were found entirely severed by larvae of the above beetle. The insects were pupating and soon thereafter emerged as beetles.

RED SPIDER (Tetranychus telarius L.)

- New York E. P. Felt (July 25): Red spider has developed in considerable numbers at Rochester on junipers and spruces owing to the recent heat wave (R. E. Horsey).

ARBORVITAE

- Ohio A SOFT SCALE (Lecanium fletcheri Ckll.)

- Ohio E. W. Mendenhall (July 21): The arborvitae in nurseries and private plantings are quite badly infested with the Lecanium fletcheri Ckll. scale.

RED SPIDER (Tetranychus telarius L.)

- Ohio E. W. Mendenhall (July 9): The red spider has begun its work on arborvitae in the nurseries in Springfield, and the work of treatment is being carried on by using sulphur.
- Mississippi R. W. Harned (July 25): Specimens were received from Crystal Springs on July 7 on arborvitae.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

- Kansas J. W. McColloch (July 20): Boxelder bugs were reported abundant on boxelder around Wellington on July 12 and at Council Grove on July 19.

A LEAF ROLLER (Gracilaria negundella Cham.)

- Iowa C. N. Ainslie (July 21): This leaf roller is present in large numbers on many boxelder shade trees in the vicinity of Sioux City this summer, doing little real injury, but spoiling the appearance of the trees. Several species of parasites are busy just now and promise a reduction in the number of the pest.

CHESTNUT

A WEEVIL (Curculio auriger Cas.)

- Maryland F. E. Brooks (June 6): Beetles of the lesser chestnut curculio were found on the still unopened buds of the male catkins of chestnut at Bell Station. Beetles were not abundant; however, it is probable that emergence from the ground was still under way.

CREPE MYRTLE

AN APHID (Myzocallis sp.)

- Mississippi R. W. Harned (July 25): Myzocallis sp. was reported on crepe myrtle at Meridian on July 18.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

- New York E. P. Felt (July 25): Gossyparia spuria were hatching at Highland Park, Rochester, from July 5 to 16. The insect was rather abundant (R. E. Horsey).
- Ohio E. W. Mendenhall (July 21): I find some of the elms in Clark County infested with the European elm scale. These are found on several varieties of elm.

ELM LEAF BEETLE (Galerucella luteola Müll.)

New York E. P. Felt (July 25): Grubs of the elm leaf beetle were hatching at Rochester June 23, but as there was no serious infestation, it was not necessary to spray especially for this insect (R. E. Horse Elms at Ballston Spa are showing some injury by this pest, although in most sections of the Hudson Valley there appears to be relative little damage.

Ohio E. W. Mendenhall (July 19): The elm leaf beetle has put in its appearance in New Castle. They have nearly all entered the ground to pupate and will emerge as adults in a short time.

ELM CASE BEARER (Coleophora lirosipennella Dup.)

New York E. P. Felt (July 25): The elm leaf miner has been injurious to English and Scotch elms at New Rochelle and Scarsdale (G. M. Coddington).

ELM SCURFY SCALE (Chionaspis americana Johns.)

Indiana H. F. Dietz (June 23): The scurfy scale of the elm has been frequently reported on American elm from Indianapolis, Greenfield, and scattered towns over the State.

LARCH

LARCH CASE BEARER (Coleophora laricella Hübner.)

New York E. P. Felt (July 25): The American, European, and Japanese larches in Highland Park, Rochester, show damage by the larch case bearer. It was noticed in some numbers at Saratoga.

LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Mississippi R. W. Harned (July 25): The locust leaf miner has been abundant in southwest Mississippi during the past two months on locust trees. Specimens have been received from Natchez and Vicksburg while reports in regard to this insect have been received from several localities.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Ohio E. W. Mendenhall (July 15): I find the honey locust attacked by the V-marked leaf roller in Clark County in several places.

MAPLE

NORWAY MAPLE APHID (Periphyllus lyropictus Kess.)

- New York E. P. Felt (July 25): The Norway maple aphid has been abundant and injurious to Norway maples at Buffalo (M. H. Clark, Jr.) and also at Rochester (R. E. Hossey). They are also found in the vicinity of Albany and in the southern Hudson Valley.
- Maryland P. D. Sanders (July 1): Specimens of the Norway maple aphid and inquiries about its control have been received from all parts of the State during the past month. Parasites and predators are now clearing up the infestation. The injury has resulted in leaf dropping which is still continuing in spite of the infestation decreasing. Many towns in all sections of Maryland have their streets lined with maples which have been heavily infested this year with the aphids. Automobiles parked for a few minutes under a maple become splotted with honeydew. The aphid was reported from Frederick, Snow Hill, Berlin, Salisbury, Chestertown, Baltimore, Laurel, and elsewhere.
- Indiana H. F. Dietz (June 28): The most conspicuous of plant lice is the Norway maple plant louse which unquestionably is widespread throughout the State wherever Norway maples occur, and has been definitely recorded from the following locations, causing the leaves to fall and the sidewalks to be covered with honeydew: Indianapolis, Greenwood, Centerville, Martinsville, Richmond, Greenfield, Rennville, Bluffton, Anderson, Marion, LaFayette, Goodland, Remington, Elkhart, Rochester, Columbus, and Franklin.
- J. J. Davis (July 19): Reports of the Norway maple aphid increased materially the last few days in June and early July, being especially conspicuous because of the honeydew on the upper leaf surfaces. Reports since last month's report came from Laketon, Anderson, Nappanee, Summitville, Elkhart, Alexandria, Modoc, South Bend, and Winchester. The writer drove through from La Fayette to Monroe, Mich., the last of June and in every town the presence of these aphids on hard and Norway maples was everywhere evident by the honeydew. Likewise, there were almost as great infestations of other species on soft maple, boxelder, elm, and linden.
- Ohio E. W. Mendenhall (June 30): The Norway maples in the vicinity of Columbus, also in southern Ohio, are covered with a sweet molasses-like substance which they excrete and the insects are causing the foliage to fall.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

- Indiana J. J. Davis (July 19): The flat headed borer was reported as seriously damaging young maple trees at Huntington and Huron June 24 and July 13, respectively.

COTTONY MAPLE SCALE (Pulvinaria innumerabilis Rathv.)

Indiana

J.J.Davis (July 19): The cottony maple scale continues to be received frequently in the mail. Counties represented the past month include Boone, Decatur, Delaware, Elkhart, Hamilton, Jasper, Jay, Madison, Marion, Miami, Randolph, Shelby, Tipton and Grant.

H. F. Dietz (June 28): The cottony maple scale is bad in Indianapolis, Elwood, Anderson, Noblesville, Remington, and Elkhart. Likewise infestations have been observed at Bluffton and Pennyville.

RED SPIDER (Tetranychus telarius L.)

Mississippi

R. W. Harned (July 25): Specimens of the red spider were received from Holly Spring with the report that they were attacking maple on July 9.

OAK

A LEAF MINER (Lithocolletis conglomeratella Zell.)

Ohio

E. W. Mendenhall (July 15): The leaf miner Lithocolletis conglomeratella is noticeable on white oak in the southwestern portion of Ohio.

PINE

TIP MOTH (Rhyacionia bushnelli Busck)

Louisiana

Monthly Letter of Bureau of Entomology, No. 157, May, 1927: On May 12 L. G. Baughofer, stationed at Halsey, Nebr., arrived in Asheville, N.C., to study the tip-moth situation about there, with a view to obtaining new parasites to introduce in the plantations at Halsey. Later, accompanied by Mr. St. George, he left Asheville for Bogalusa, La., where the tip moth has been causing severe losses for the past few years to the reproduction of young pine. Loblolly pines were found to be the favorite host, while slash pine was but slightly injured. Observations seemed to indicate that longleaf pine was almost immune from this type of injury, its principal injury seeming to be a loss in the attainment of height. Observations were also made on a series of trap-tree studies that have been in progress for the last two years, to determine the aggressiveness of certain barkbeetles and the condition most favorable for their attack and the development of their broods. On May 20 Messrs. Baughofer and St. George conferred with R. D. Forbes, Director of the Southern Forest Experiment Station, New Orleans, La., on current insect problems in the South. It was learned that tip-moth injury has been noted in plantations all over the northern part of Louisiana, especially for the past two or three years, indicating that this injury is quite general in the State.

INTRODUCED PINE SAWFLY (Diprion simile Hartig)

New York E. P. Felt (July 25): The European pine sawfly occurred here and there in the pinetum of Rochester public parks early in the month (R. E. Horsey).

PINE BARK LOUSE (Chermes pinicorticis Fitch)

New York E. P. Felt (July 25): Chermes pinicorticis has been quite abundant at Rochester on pine and fir (R. E. Horsey).

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Ohio E. W. Mendenhall (July 15): I find that several of the pines, especially the white pines, are somewhat infested with the pine leaf scale, in the vicinity of Springfield.

POPLAR

POPLAR TENT MAKER (Melalopha inclusa Hubn.)

Indiana H. F. Dietz (July 21): The poplar tent maker was very abundant on Carolina, Lombardy, and Volga poplars at Terre Haute.

POPLAR BORER (Saperda calcarata Say)

Nebraska M. H. Swenk (June 25-July 25): About the normal number of complaints of injury to poplar trees by the poplar borer have been received during the period covered by this report.

COTTON-WOOD BORER (Plectrodera scalator Fab.)

Texas F. C. Bishopp (July 26): These borers have been causing considerable injury to poplars, especially Lombardy, in Dallas. Many young trees have been killed, and older ones show dead leaves and branches.

SATIN MOTH (Stilpnotia salicis L.)

Maine C. R. Phipps (July 21): Many poplars near Biddeford and Portland are defoliated by the satin moth (July 1).

SPRUCE

SPRUCE SAWFLY (Neodiprion abietis Harr.)

Massachusetts A. I. Bourne (July 25): Reporting on the conditions from the last of June to date, I would say that the fir sawfly was reported in this State from a number of different sections, indicating that this year's outbreak was quite general throughout the State. Wherever this pest was collected or reported, it was present in

very large numbers and doing a considerable amount of stripping, both of old trees and seedlings. By the 25th of June the larvae had for the most part completed feeding and begun to spin their cocoons.

SPRUCE BUDWORM (Harmoloba fumiferana Clem.)

Michigan E. I. McDaniel (July 18): The spruce budmoth has been very plentiful in Michigan this year, and has done serious injury on the eastern border of the State.

SPRUCE LEAF MINER (Recurvaria piceaella Kearf.)

Ohio E. W. Mendenhall (June 27): The needle miner Recurvaria piceaella is quite bad on spruce at Mt. Vernon.

A RED SPIDER (Paratetranychus uniunguis Jac.)

Connecticut M. P. Zappe (July 23): Paratetranychus uniunguis is causing considerable injury to spruces in nurseries, turning the leaves red-rusty color over the entire State.

WHITE GRUBS (Phyllophaga spp.)

Ohio E. W. Mendenhall (July 16): The Koster blue spruce in a nursery at Springfield is being damaged and killed by the white grubs.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Indiana B. A. Porter (July 23): The walnut caterpillar is quite common on black walnut and pecan, occasional trees being defoliated.

Tennessee A. C. Morgan (July 20): The walnut datanid has completely defoliated a majority of the walnut trees in the vicinity of Clarksville.

Mississippi R. W. Harned (July 25): The walnut caterpillar is causing considerable damage throughout the State to walnut, pecan, and hickory trees. At Ocean Springs, J. P. Kislanko found that most of the egg masses were parasitised. In a batch of 1,122 eggs all but 3 were parasitised. In another cluster of 1,191 eggs 1,034 were parasitised. In some cases 100 per cent of the eggs were parasitised.

BLACK WALNUT CURCULIO (Conotrachelus retentus Say)

West Virginia F. E. Brooks (June 27): Conotrachelus retentus are abundant and are attacking practically all of the light crop of nuts. Not all the punctured nuts fall, but a heavy drop of the scanty crop is anticipated.

WILLOW

MOTTLED WILLOW BORER (Cryptorhynchus lapathi L.)

Indiana

H. F. Dietz (June 28): The poplar and willow borer is bad in the vicinity of Indianapolis on Lombardy poplar and on pussy and weeping willows.

J. J. Davis (July 19): The mottled willow borer was reported damaging willow at Marion June 27.

POPLAR TENT MAKER (Melalopha inclusa Hübner.)

Ohio

E. W. Mendenhall (July 22): I find the poplar leaf tyer feeding on willows at Springfield. These leafy retreats are quite interesting.

GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIIDAE

Tennessee

A. C. Morgan (July 20): Plant lice were very numerous on ornamentals throughout the rainy period of spring and early summer in the vicinity of Clarksville.

WHITE FLIES (Aleyrodidae)

Georgia

O. I. Snapp (July 20): The white flies are very abundant this year on plants in the yards of this city (Fort Valley). Considerable damage has been done on some properties.

FLOWER WEBWORM (Homoeosoma electellum Hulst)

Iowa

C. J. Drake (July 12): The flower webworm, Homoeosoma electellum Hulst, has been injuring a number of composite flowers at Ames this summer.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Indiana

H. F. Dietz (June 28): The oyster-shell scale has been very abundant on ornamental shrubbery throughout the State. At Indianapolis the hatching of the light-brown form took place about May 15. No definite records on the hatching of the other form were obtained in this locality. At Pennville, hatching of the single-brooded gray-brown form took place about June 1 to 5. In the locality of Pennville two new host records for Indiana are obtained. These were both on native shrubs, namely, bladder nut, Staphylea tripolia and wafer ash, Ptelea trifoliata. Three miles southeast of Bluffton this scale was found very abundant on young

ash and on young prickly ash, Zanthoxylum americanum. This also is a new Indiana host record. About 7 miles east of Indianapolis there is a new large real estate addition, the street trees of which are all soft maple. At least 50 per cent of these soft maple trees are infested with the oyster-shell scale and at least 5 per cent are dead or dying because of this pest.

A MEALYBUG (Phenacoccus colemani Ehrh.?)

Mississippi

R. W. Harned (July 25): The species of mealybug most frequently collected in greenhouses or on house or yard plants during the past year is Phenacoccus colemani Ehrh. ?. Within the past month this species has been received from: Belzone, on an unknown succulent plant; Holly Springs, on verbena; Pascagoula, on althaea; Yazoo City, on begonia; Cleveland, on cherry, coleus, geranium, ivy, and jasmine.

RED SPIDER (Tetranychus telarius L.)

Indiana

H. F. Dietz (July 21): The red spider has been unusually abundant on evergreens throughout the State.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea F. Loew)

Indiana

H. F. Dietz (July 21): An outbreak of the chrysanthemum gall midge was found on chrysanthemum at Washington in a greenhouse.

DAHLIA

MARGINED BLISTER BEETLE (Epicauta cinerea marginata Fab.)

Indiana

J. J. Davis (July 19): Margined blister beetles were reported damaging dahlia in commercial plantings at Tell City July 15.

A FULGORID (Acanalonia conica Say)

Mississippi

R. W. Harned (July 25): Serious damage to dahlia plants was reported from Clarksdale on June 30 by Fulgoridae identified as Acanalonia conica by J. M. Langston.

A BEETLE (Luperodes sp.)

Mississippi

R. W. Harned (July 25): Specimens identified as a species of Luperodes were reported from Coila on June 28. Severe damage to dahlia plants was reported.

GLADIOLUS

TARNISHED PLANT BUG (Lygus pratensis L.)

Indiana

J. J. Davis (July 19): The tarnished plant bug was reported as causing considerable damage to gladiolus by a commercial grower at Spencer July 16. The grower reports, "They sap the life from gladioli spikes just as the spikes appear above the foliage. They work on spikes from then on to blooming stage if spikes can hold out that long which is impossible in most cases. Have seen 100 or more on a spike."

BULB MITE (Rhizoglyphus sp.?)

Indiana

H. F. Dietz (July 21): Bulb mites, Rhizoglyphus sp.?, were found doing severe injury to gladiolus bulbs at Mathews. A planting of several thousand bulbs of the variety "Pride of Goshen" was found to be severely attacked, the mother bulbs being reduced to a mass of dust by the mites. The previous history of these gladioli was that they had been stored in crates, which had previously been used for the storing of tulaps. This is the first authentic report of bulb-mite injury to gladioli in Indiana.

HOLLYHOCK

STALK BORER (Papaipema nebris nitela Guen.)

Ohio

E. W. Mendenhall (July 12): There has been considerable damage to hollyhock plants in Columbus and vicinity this season by the common stalk borer.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Indiana

H. F. Dietz (June 28): The iris borer has been very bad in several cities and towns throughout the State. This insect seems to be more serious in city and town gardens than in plantings in the open country. It seems to be decidedly local. The localities where this insect is most abundant are Indianapolis, Bluffton, LaFayette, and Greenwood. The eggs of this insect started hatching the 15th of April, but because of intervening cold weather hatching continued until the middle of May.

IVY

OLEANDER SCALE (Aspidiotus hederæ Vall.)

Ohio

E. W. Mendenhall (July 23): I found English ivy in some of the greenhouses of Springfield badly infested with the oleander scale.

NASTURTIIUM

BEAN APHID (Aphis rumicis L.)

Indiana J. J. Davis (July 19): The black nasturtium aphid was reported on nasturtium from Universal July 2.

PALM

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

New York E. P. Felt (July 25): The Fuller's rose beetle has become established in a Dobbs Ferry greenhouse, being especially injurious to palms.

PEONY

STALK BORER (Papaipema nebris nitela Guen.)

Ohio E. W. Mendenhall (June 25): Some damage to peony plants by the stalk borer was reported from Columbus and vicinity.

PHLOX

RED SPIDER (Tetranychus telarius L.)

Indiana J. J. Davis (July 19): The red spider was reported damaging phlox and other garden flowers in central Indiana about the middle of July.

Mississippi R. W. Harned (July 25): Red spiders were sent in from Corinth July 12 where they were reported as causing serious damage to phlox.

RHODODENDRON

RHODODENDRON LACEBUG (Stephanitis rhododendri Horv.)

New York E. P. Felt (July 25): The rhododendron lacebug was less abundant than usual owing to systematic annual sprayings, although Kalmia latifolia not sprayed last year was badly infested the present season (R. E. Horsey). Mr. Wm. L. Edson stated that there are several patches of native Rhododendron maximum near Angelica infested with this insect.

ROSE

ROSE CURCULIO (Rhynchites bicolor Fab.)

West Virginia F. E. Brooks (June 27): At French Creek serious injury to buds and hips of rugosa roses is occurring. The beetles are feeding on the buds of the roses and ovipositing in the hips.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

New York

E. P. Felt (July 25): Specimens of the ovate snout beetle, Otiorhynchus ovatus, overran a house in a sandy area near Albany, evidently having bred in considerable numbers in near-by rose bushes.

STRAWBERRY LEAF ROLLER (Ancylis comptana Fröhl.)

Connecticut

W. E. Britton (July 19): The larvae of Ancylis comptana injured a large proportion of buds in some gardens at New Haven.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Massachusetts

A. I. Bourne (July 25): The first adults of the rose chafer made their appearance June 20-21. Up to date these have not been anywhere nearly so abundant as usual, nor have any complaints come in of their being abundant in other sections of the State.

BRISTLY ROSE SLUG (Cladius isomerus Nort.)

Indiana

H. F. Dietz (June 28): The rose slug Cladius isomerus Nort. has been very common and has done considerable damage to various garden roses, especially in Indianapolis.

SNAPDRAGON AND LARKSPUR

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Indiana

H. F. Dietz (July 21): The cyclamen mite was found on larkspur and snapdragon in a greenhouse at Washington, and was also found on hardy delphiniums out of doors at Indianapolis. This is the first damage by this pest out of doors that has been noted. The flower buds were characteristically malformed and the foliage of infested plants was very thick and brittle.

SPIRAEA

SPIRAEA APHID (Aphis spiraeicola Patch)

Indiana

H. F. Dietz (June 28): The spiraea aphid occurs in immense numbers on young tips of spiraea and several nurseries have reported that the growth of these plants has been checked because of the exceedingly large number of lice occurring on them. In one of our Indianapolis parks the Spiraea van Houttei is black because of sooty mold growing on the honeydew.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

New York

E. P. Felt (July 25): Otiorhynchus sulcatus has caused consider-

able damage to *Taxus* plants at Westbury, L. I., from one to ten weevils being easily found upon individual plants.

VERBENA

MARGUERITE FLY (*Phytomyza chrysanthemi* Kowarz)

Mississippi

R. W. Harned (July 25): *Verbena* leaves damaged by the marguerite fly were received on June 24 from Philadelphia.

VIBURNUM

SNOWBALL APHID (*Anuraphis viburnicola* Gill.)

Indiana

H. F. Dietz (June 28): The snowball aphid has caused serious malformation of the growth of the common snowball or viburnum in Indianapolis, Richmond, and Bridgeport.

ZINNIA

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli* Guen.)

Mississippi

R. W. Harned (July 25): Specimens of *Prodenia ornithogalli* have just been received from Yazoo City. Inspector Chesley Hines reports that the plants are covered with the worms and that they are eating the leaves and buds. He sent in 16 specimens.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

MAN

FLEAS (Siphonaptera)

Indiana

J. J. Davis (July 19): Fleas in houses reported abundant at La Fayette, July 12.

Missouri

L. Haseman (June 28): During the month a few farmers have reported heavy epidemics of fleas in their homes and about the farm buildings.

Indiana

H. F. Dietz (June 28): Three infestations of fleas (*Ctenocephalus canis* Curtis and *C. felis* Bouche) have been reported in the last week (May 20 to 25) from Indianapolis. Two were from dwellings and one from lawns. (July 21): Reports of infestations of cat and dog fleas have been received from Indianapolis, Gary, Richmond, Troy, and Tell City.

Nebraska

H. H. Swenk (June 25-July 25): During the month of July a very

great number of complaints of infestations of houses by fleas, Ctenocephalus canis and C. felis, were received from Lincoln and vicinity.

BOOKLOUSE (Troctes divinatorius Müll.)

Maryland

A. N. Caudell (July 14): A lady of Landover has for some six weeks been troubled by the presence in her hair of the common house booklouse. It is stated that numbers have been combed from her hair and specimens of the insects were submitted to me for determination. This is, so far as I know, the first record of these insects infesting the heads of persons.

A TICK (Dermacentor andersoni Stiles)

Arkansas

H. H. Schwardt (July 1): Several cases of tularaemia caused by tick bites have been reported in Benton County during June and July. The mortality has been greater than is usually the case with tularaemia. Rabbits are not being hunted as before and as a result are increasing rapidly.

A SPIDER (Latrodectes mactans Fab.)

Arkansas

H. H. Schwardt (July 1): Two specimens have recently been found in an orchard under debris, and a third in a corner of the insectary at the Bentonville station. The last was in a large tubular web which also contained an egg sack. Approximately 500 young hatched from the egg sack. This spider is reported by Baerg as being one of the most poisonous in the United States.

MOSQUITOES (Culicidae)

Louisiana

W. V. King (July 23): An increase of the species Culex leprincei has been coincident with the increase of Anopheles during the overflow in northeastern Louisiana. It is not troublesome in houses as a rule, but has been very annoying out of doors at night and in shaded places during the day.

W. V. King (July 23): Species of mosquitoes such as Aedes vexans Meig. and Psorophora sayi D. & K. which were numerous before the overflow have not been at all in evidence since then.

MALARIA MOSQUITO (Anopheles quadrimaculatus Say)

Louisiana

W. V. King (July 23): A marked increase of this species occurred during May and June in the area overflowed by the Mississippi River in northeastern Louisiana, becoming a serious pest problem to people living in unscreened or poorly screened houses and among the flood refugees in temporary camps. There has not as yet been a corresponding increase in the amount of malaria, but with the return of the refugees to their homes and with a continuance of

Anopheles abundance this is to be expected before the end of the season. Comparative counts of resting mosquitoes were begun July 8 and the average number per house found underneath a group of five tenant houses for three successive weeks was as follows: July 8 - 1,100; July 15 - 991; July 22 - 929. The average for two of these houses for which comparative records for previous years are available were 977, 873, and 735 for the same dates while in July, 1923, the average was 145, and in July, 1924, only 22. Although the records for this year are above normal they were nevertheless equalled several years ago as a result of excessive rainfall during the spring and summer. However, from general observations made at Tallulah and elsewhere it was evident that the increase of Anopheles has been greater in other places than at Mound. While the female Anopheles under normal conditions usually do their biting after dark they have caused considerable annoyance during this overflow by biting during the daytime in buildings or in shady places out of doors. The removal of most of the domestic animals and the consequent lack of food for so many mosquitoes is a probable explanation for this change of habits. A report from Bear Lake, where mosquitoes were said to be extremely numerous, stated that Anopheles were biting out of doors in bright sunlight, which is a decidedly unusual occurrence.

CATTLE

SCREW WORM (Cochliomyia macellaria Fab.)

Texas

F. C. Bishopp (July 26): The screw worm has been extremely abundant and injurious so far this year. The losses have been heaviest in the southwestern part of the State, on the southern end of the Edwards Plateau and southward. Many stockmen state that this is the worst screw-worm year they have experienced. The death losses are stated to range among sheep and goats from 1 to 5 per cent. The death losses, naturally, have been heaviest among young stock. At this date the flies are becoming less abundant, and apparently the number of new cases is decreasing rapidly.

HORN FLY (Haematobia irritans L.)

Texas

D. C. Parman (July 26): The horn fly has increased during the last two weeks from 0 to 250 per animal to 100 to 2,500 per animal.

STABLE FLY (Stomoxys calcitrans L.)

Texas

F. C. Bishopp (July 26): The stable fly is increasing to some extent in northern Texas, but has not become sufficiently abundant as yet to cause heavy losses. Recent heavy rains since threshing has begun are probably the forerunner of much more serious annoyance from these insects.

POULTRY

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Nebraska

M. H. Swenk (June 25-July 25): During the last week of June the rose chafer, as usual, appeared in abundance in the sandhill region of westcentral Nebraska. From Custer County, along the eastern edge of the heavily infested district, it was reported that hundreds of young chickens, turkeys, ducks, and geese were killed this year by eating these beetles. Two Custer County 4-H club boys reported that of a flock of turkeys, weighing about one pound each, over half were lost within a few days from eating these beetles. The usual damage to trees and shrubs by the rose chafer has also been reported.

I N S E C T S I N F E S T I N G H O U S E S

A N D P R E M I S E S

TERMITES

Missouri

L. Haseman (June 28): Inquiries continue to come in from different parts of the State relative to termites in houses and other buildings. There seems to have been an unusual epidemic throughout the State this spring.

Kansas

J. W. McColloch (July 20): Hoisington, Beloit, and Kansas City have reported damage to houses. The first floor of a school house at Salina has had to be replaced. At Wellington the termites are working in a lumber yard. They have gone through stacks of new lumber, have damaged the office, and destroyed books and records.

Nebraska

M. H. Swenk (June 25-July 25): Late in June additional reports of injury by our common termite, Reticulitermes tibialis Banks were received from Franklin County.

ANTS (Formicidae)

South
Carolina

J. O. Pepper (July 19): A large number of requests for exterminating ants from dwellings have been received during the past two months. Reports coming from various sections of the State.

Mississippi

R. W. Harned (July 25): Alate males and females of Cremastogaster laeviuscula var. clara Emery were found emerging from a nest in a house at A. & M. College on June 25.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Mississippi

R. W. Harned (July 25): The Argentine ant has recently been found at Osborn and Moss Point.

PHARAOH'S ANT (Monomorium pharaonis L.)

Mississippi

R. W. Harned (July 25): A number of property owners in West Point are having trouble with both Pharaoh's ant and the tiny thief ant.

PENNSYLVANIA WOOD-ROACH (Parcoblatta pennsylvanica DeG.)

Nebraska

M. H. Swenk (June 25-July 25): A report of the infestation of a residence in southeastern Lancaster County with our native wood-roach, Parcoblatta pennsylvanica, was received during middle July.

CARPENTER BEE (Xylocopa virginica Drury)

Kansas

J. W. McColloch (July 20): The following reports have been received during the month: June 20, bees working in rafters of garage at Florence; June 22, injury in building at Emporia; June 23, garage damaged at Manhattan; July 6, house infested at Wilsey; July 7, damage to porch at Alma.

POWDER-POST BEETLE (Lyctus cavicollis Lec.)

California

Monthly News Letter, Los Angeles County Hort. Comm. (June 18): Several reports have recently been received by the Los Angeles County Horticultural Commissioner's office from widely separated points in the county asking for information concerning a beetle destroying furniture and woodwork. In one case the veneer covering of a dresser was found badly riddled by the borers. In another the woodwork of an outlying post office was being seriously damaged. In a third case the slide runner of an extension table was being damaged, and in still another the veneer paneling of one entire side of a dining room had been ruined. An investigation showed the work in each case to be that of one of the powder-post beetles, Lyctus cavicollis, a small slender brownish beetle, which mines the seasoned wood of oak, hickory, eucalyptus, etc., and is recorded as common to California and Oregon.

S T O R E D - G R A I N I N S E C T S

Nebraska

M. H. Swenk (June 25-July 25): Stored-grain pests are not being complained of. One Thomas County correspondent submitted a sample of 1925 rye heavily infested with a mixture of Tenebroides mauritanicus L., Cryptolestes pusillus Schön., Sitophilus granarius L., and Tribolium confusum Duv.

A MITE (Tyroglyphus sp. ?)

Indiana

H. F. Dietz (July 21): A heavy infestation of flour mites, Tyroglyphus sp. ?, was found in a very large grain elevator at Beech Grove, in the dust from the carrying belts.

LESSER GRAIN BORER (Rhizopertha dominica Fab.)

Virginia

S. W. Bromley (July 22): An adult of the lesser grain borer, was found in a mill at Richmond July 9. Subsequent inquiries revealed the fact that shipments of western grain had just been received at the mill. It is probable that the beetle came in with this shipment.